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ABSTRACT

This report documents the results of the National Assessment of Educational Progress (NAEP) 1992 mathematics assessment and provides comparisons to the findings from a comparable survey conducted in 1990. It serves as a valuable reference volume which presents a diverse array of student, demographic, educational, and background characteristics. Chapters include: (1) "Overall Mathematics Achievement for the Nation and the States"; (2) "Overall Mathematics Achievement for Demographic Groups for the Nation and the States"; (3) "Mathematics Achievement by Content Area for the Nation and the States"; (4) "Mathematics Achievement by Content Areas for Population Subgroups for the Nation at Grades 4, 8, and 12 and the States at Grades 4 and 8"; (5) "Student Performance on Constructed-Response Questions for the Nation and the States"; (6) "Students' Perceptions of Mathematics"; (7) "Course-Taking Patterns for the Nation and the States"; (8) "Instructional Time and Emphases for the Nation and the States"; (9) "Instructional Approaches for the Nation and the States"; (10) "Use of Calculators and Computers in the Nation and the States"; (11) "Characteristics of Fourth- and Eighth-Grade Mathematics Teachers"; (12) "Student Motivation on NAEP's 1992 Assessment for the Nation and the States"; and (13) "Achievement by Academic Emphasis in the Home for the Nation and the States". Appendices include: (1) "What Students Know and Can Do in Mathematics"; (2) "Guidelines for Sample Participation and Explanation of Derivation of Weighted Population"; (3) "State Contextual Background Factors"; (4) "Overview of Procedures Used"; and (5) "Mean Proficiencies, Standard Deviations, and Percentiles for National Demographic Subpopulations". (JRH)

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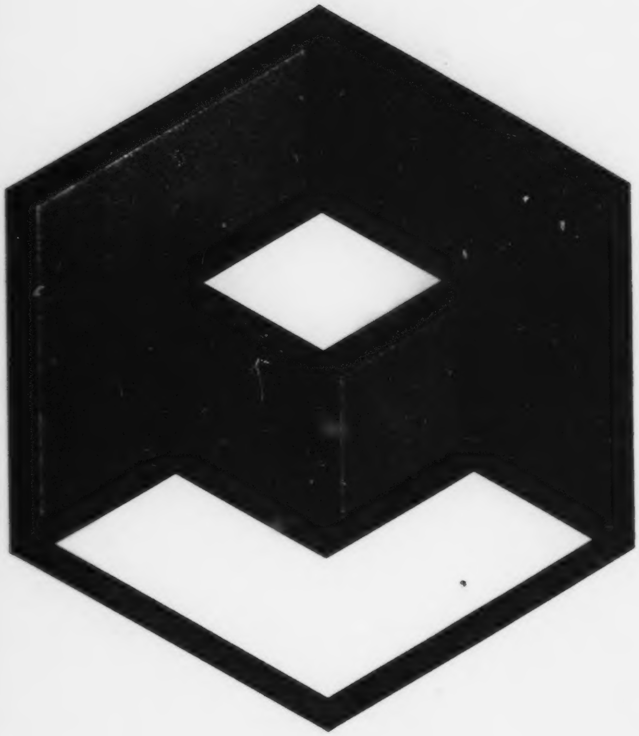

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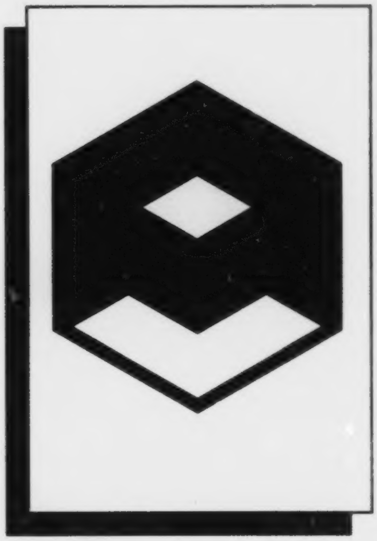

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CONTENTS

INTRODUCTION 1

Scope of the Assessment 2

The Assessment Framework 3

The Conduct of the 1990 and 1992 Assessments 4

Achievement Levels 5

Definitions of Achievement Levels 6

A Recent History of NAEP Reporting 6

A Transition Phase in Reporting 8

Orientation to This Report 9

CHAPTER ONE Overall Mathematics Achievement for the Nation and the States 11

Overview 13

Figure 1.1 Description of Mathematics Achievement Levels for Basic, Proficient, and Advanced Fourth Graders 14

Figure 1.2 Description of Mathematics Achievement Levels for Basic, Advanced, and Proficient Eighth Graders 21

Figure 1.3 Description of Mathematics Achievement Levels for Basic, Advanced, and Proficient Twelfth Graders 26

Overall Average Mathematics Proficiency and Achievement Level Results for the Nation 34

Table 1.1 National Overall Average Mathematics Proficiency and Achievement Levels, Grades 4, 8, and 12 34

Table 1.2 Mathematics Proficiency (Scale-Score Cutpoint) Corresponding to Each Achievement Level, Grades 4, 8, and 12 34

Table 1.3 Average Mathematics Proficiency and Achievement Levels by Region, Grades 4, 8, and 12 35

Table 1.4 Overall Average Mathematics Proficiency and Achievement Levels 36

Figure 1.4 The NAEP Trial State Assessment Comparisons of Overall Mathematics Proficiency at Grade 8 38

Figure 1.5 Comparisons of Overall Mathematics Average Proficiency, Grade 4, 1992 39

Figure 1.6 Comparisons of Overall Mathematics Average Proficiency, Grade 8, 1992 40

Percentiles of Overall Mathematics Achievement for the Nation and the States 41

Table 1.5 Percentiles of Overall Mathematics Proficiency, Grades 4, 8, and 12 41

Table 1.6 Percentiles of Overall Mathematics Proficiency 42

Figure 1.7 Distribution of Overall Mathematics Proficiency Organized by Average Proficiency Grade 4, 1992 45

Figure 1.8 Distribution of Overall Mathematics Proficiency Organized by Average Proficiency Grade 8, 1992 46

Figure 1.9 Distribution of Overall Mathematics Proficiency Organized by Average Proficiency Grade 8, 1990 47

CHAPTER TWO Overall Mathematics Achievement for Demographic Groups for the Nation and the States 49

Overview 51

Figure 2.1 Average Overall Mathematics Proficiency by Selected Demographics for Five Performance Bands (Quintiles) Grade 4, 1992 52

National Performance by Race/Ethnicity 54

Table 2.1 Average Mathematics Proficiency and Achievement Levels by Race/Ethnicity, Grades 4, 8, and 12 54

Table 2.2 Average Mathematics Proficiency by Race/Ethnicity 55

Table 2.3 Achievement Levels by Race/Ethnicity 58

National Performance by Gender 64

Table 2.4 Average Mathematics Proficiency and Achievement Levels by Gender, Grades 4, 8, and 12 64

Table 2.5 Average Mathematics Proficiency and Achievement Levels by Race/Ethnicity and Gender, Grades 4, 8, and 12 65

Table 2.6 Average Mathematics Proficiency by Gender 66

Table 2.7 Achievement Levels by Gender 68

National Performance by Type of Community 71

Table 2.8 Average Mathematics Proficiency and Achievement Levels by Type of Community, Grades 4, 8, and 12 71

Table 2.9 Average Mathematics Proficiency by Type of Community 72

Table 2.10 Achievement Levels by Type of Community 75

National Performance by Parents' Highest Level of Education 81

Table 2.11 Average Mathematics Proficiency and Achievement Levels by Parents' Highest Level of Education, Grades 4, 8, and 12 81

Table 2.12 Average Mathematics Proficiency by Parents' Highest Level of Education 82

Table 2.13 Achievement Levels by Parents' Highest Level of Education 85

National Performance by Public and Private Schools 91

Table 2.14 Average Mathematics Proficiency and Achievement Levels by Type of School, Grades 4, 8, and 12 91

National Performance at Grade 12 by High-School Program After High School 92

Table 2.15 Average Mathematics Proficiency by Type of High-School Program and Plans After High-School Graduation, Grade 12 92

National Performance by Average School Performance 93

Table 2.16 Average Mathematics Proficiency and Achievement Levels for the Top One-Third of the Schools and the Bottom One-Third of the Schools, Grades 4, 8, and 12 93

Table 2.17 Percentage of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools and the Bottom One-Third of the Schools, Grades 4, 8, and 12 94

Table 2.18 Average Mathematics Proficiency and Achievement Levels for the Top One-Third of the Schools 96

Table 2.19 Average Mathematics Proficiency and Achievement Levels for the Bottom One-Third of the Schools 99

Table 2.20 Percentages of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools 102

Table 2.21 Percentages of Students Within Selected Demographic Subgroups in the Bottom One-Third of the Schools 108

CHAPTER THREE Mathematics Achievement by Content Areas for the Nation and the States 115

Overview 117

Background and Description of the Mathematics Content Areas 118

Figure 3.1 Description of Content Areas 118

Figure 3.2 Description of Mathematical Abilities 120

Average Proficiency in Mathematics Content Areas for the Nation 121

Table 3.1 Average Proficiency in Mathematics Content Areas, Grades 4, 8, and 12 121

Table 3.2 National Percentages At or Above Achievement Levels in Estimation, Grades 4, 8, and 12 121

Table 3.3 Mathematics Proficiency (Scale-Score Cutpoint) Corresponding to Each Achievement Level, Grades 4, 8, and 12 122

Table 3.4 Percentiles of Proficiency in Mathematics Content Areas, Grades 4, 8, and 12 122

Average Proficiency in Mathematics Content Areas By Region 124

Table 3.5 Average Proficiency in Mathematics Content Areas by Region, Grades 4, 8, and 12 124

Table 3.6 Average Proficiency in Mathematics Content Areas 125

Figure 3.3 Average Proficiency by Mathematics Subscales for Five Performance Bands (Quintiles) 1992 Grades 4 and 8 127

Figure 3.4 Comparisons of Numbers and Operations Average Proficiency 1992 Grade 4 128

Figure 3.5 Comparisons of Numbers and Operations Average Proficiency 1992 Grade 8 129

Table 3.7 Percentiles of Proficiency in Numbers and Operations 130

Figure 3.6 Comparisons of Measurement Average Proficiency 1992 Grade 4 133

Figure 3.7 Comparisons of Measurement Average Proficiency 1992 Grade 8 134

Table 3.8 Percentiles of Proficiency in Measurement 135

Figure 3.8 Comparisons of Geometry Average Proficiency 1992 Grade 4 138

Figure 3.9 Comparisons of Geometry Average Proficiency 1992 Grade 8 139

Table 3.9 Percentiles of Proficiency in Geometry 140

Figure 3.10 Comparisons of Data Analysis, Statistics, and Probability Average Proficiency 1992 Grade 4 143

Figure 3.11 Comparisons of Data Analysis, Statistics, and Probability Average Proficiency 1992 Grade 8 . . . 144

Table 3.10 Percentiles of Proficiency in Data Analysis, Statistics, and Probability . . . 145

Figure 3.12 Comparisons of Algebra and Functions Average Proficiency 1992 Grade 4 . . . 148

Figure 3.13 Comparisons of Algebra and Functions Average Proficiency 1992 Grade 8 . . . 149

Table 3.11 Percentiles of Proficiency in Algebra and Functions . . . 150

Figure 3.14 Comparisons of Estimation Average Proficiency 1992 Grade 4 . . . 153

Figure 3.15 Comparisons of Estimation Average Proficiency 1992 Grade 8 . . . 154

Table 3.12 Percentiles of Proficiency in Estimation . . . 155

Table 3.13 Average Estimation Proficiency and Achievement Levels . . . 157

CHAPTER FOUR Mathematics Achievement by Content Areas for Population Subgroups for the Nation at Grades 4, 8, and 12 and the States at Grades 4 and 8 . . . 159

Overview . . . 161

Average Achievement in Mathematics Content Areas by Race/Ethnicity . . . 162

Table 4.1 Average Proficiency in Mathematics Content Areas by Race/Ethnicity, Grades 4, 8, and 12 . . . 162

Table 4.2 Average Proficiency in Mathematics Content Area Numbers and Operations by Race/Ethnicity for States, Grades 4 and 8 . . . 163

Table 4.3 Average Proficiency in Mathematics Content Area Measurement by Race/Ethnicity for States, Grades 4 and 8 . . . 165

Table 4.4 Average Proficiency in Mathematics Content Area Geometry by Race/Ethnicity for States, Grades 4 and 8 . . . 167

Table 4.5 Average Proficiency in Mathematics Content Area Data Analysis, Statistics, and Probability by Race/Ethnicity for States, Grades 4 and 8 . . . 169

Table 4.6 Average Proficiency in Mathematics Content Area Algebra and Functions by Race/Ethnicity for States, Grades 4 and 8 171

Table 4.7 Average Proficiency in Mathematics Content Area Estimation by Race/Ethnicity for States, Grades 4 and 8 173

Average Achievement in Mathematics Content Areas by Gender 175

Table 4.8 Average Proficiency in Mathematics Content Areas by Gender, Grades 4, 8, and 12 175

Table 4.9 Average Proficiency in Mathematics Content Areas by Gender for States, Grades 4 and 8 176

Average Achievement in Mathematics Content Areas by Type of Community 177

Average Achievement in Mathematics Content Areas by Type of Community 181

Table 4.10 Average Proficiency in Mathematics Content Areas by Type of Community, Grades 4, 8, and 12 181

Table 4.11 Average Proficiency in Mathematics Content Areas by Type of Community for States, Grades 4 and 8 182

Average Achievement in Mathematics Content Areas by Parents' Highest Level of Education 191

Table 4.12 Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education, Grades 4, 8, and 12 191

Table 4.13 Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education for States, Grades 4 and 8 192

CHAPTER FIVE Student Performance on Constructed-Response Questions for the Nation and the States 201

Overview 203

Table 5.1 Number of Regular Constructed-Response and Multiple-Choice Questions by Content Area 204

Examples of Regular Constructed-Response Questions with National Results 205

Table 5.2 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Jill's Class Trip" 209

Table 5.3 Percentage of Correct Response to Regular Constructed-Response Question, "Jill's Class Trip," for the States 210

Table 5.4 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Draw a Rectangle on the Grid" 212

Table 5.5 Percentage of Correct Responses to Regular Constructed-Response Question, "Draw a Rectangle on the Grid," for the States 213

Table 5.6 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Sampling the Yellow and Blue Marbles" 215

Table 5.7 Percentage of Correct Responses to Regular Constructed-Response Question, "Sampling the Yellow and Blue Marbles," for the States 216

Table 5.8 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Find Points on a Grid" 218

Table 5.9 Percentage of Correct Responses to Regular Constructed-Response Question, "Find Points on a Grid," for the States 219

Table 5.10 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Shapes Cut from Cylinders" and "Misleading Pictographs of Trash Cans" 221

Table 5.11 Percentages of Correct Responses to Regular Constructed-Response Questions, "Shapes Cut from Cylinders" and "Misleading Pictograph of Trash Cans" for the States 222

Table 5.12 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Two Numbers Make Number Sentence True" 223

Table 5.13 Percentage of Correct Responses to Regular Constructed-Response Question, "Two Numbers Make Number Sentence True," for the States 224

Table 5.14 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Changing Area of Triangle" 225

Example Ruler and Protractor/Ruler Constructed-Response Questions with National Results 226

Table 5.15 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Ruler to Measure Centimeters" 228

Table 5.16 Percentages of Correct Responses to Regular Constructed-Response Questions "Using Ruler to Measure Centimeters," for the States 230

Table 5.17 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Ruler to Draw a Rectangle" 234

Table 5.18 Percentage of Correct Responses to Regular Constructed-Response Question, "Using Ruler to Draw a Rectangle," for the States 235

Table 5.19 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Ruler to Draw a Square" 237

Table 5.20 Percentage of Correct Responses to Regular Constructed-Response Questions, "Using Ruler to Draw a Square," for the States 238

Table 5.21 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Protractor to Measure an Angle" 240

Table 5.22 Percentage of Correct Responses to Regular Constructed-Response Question, "Using Protractor to Measure an Angle," for the States 241

Example Constructed-Response Questions Calculator Available with National and State Results 242

Table 5.23 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Estimate Calories" and "Change from Buying Two Calculators" 247

Table 5.24 Percentages of Correct-Responses to Regular Constructed-Response Questions with Calculator Available, "Estimate Calories" and "Change from Buying Two Calculators," for the States 248

Table 5.25 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Missing Number in Box" and "Extend Pattern" 249

Table 5.26 Percentages of Correct Responses to Regular Constructed-Response Questions with Calculator Available, "Missing Number in Box" and "Extend Pattern," for the States 250

Table 5.27 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Raymond's Report" and "Area of Trapezoid" 251

Table 5.28 Percentages of Correct Responses to Regular Constructed-Response Questions with Calculator Available, "Raymond's Report" and "Area Trapezoid," for the States 252

Table 5.29 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Video Rental Costs" and "Area of Parallelogram" 253

Table 5.30 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Graph Pulse Rates" and "F(3.5)" 254

Table 5.31 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Trigonometry" 255

Extended Constructed-Response Questions 257

Table 5.32 National Results for Demographic Subgroups for the Extended-Response Question, "Pizza Comparison" 273

Table 5.33 Percentages for Responses to Extended-Response Question, "Pizza Comparison," for the States 274

Table 5.34 National Results for Demographic Subgroups for the Extended-Response Question "Laura Use Calculator" 275

Table 5.35 Percentages for Responses to Extended-Response Question, "Laura Use Calculator," for the States 276

Table 5.36 National Results for Demographic Subgroups for the Extended-Response Question, "Graphs of Pockets" 277

Table 5.37 Percentages for Responses to Extended-Response Question, "Graphs of Pockets," for the States 278

Table 5.38 National Results for Demographic Subgroups for the Extended-Response Task, "Treena's Budget" 296

Table 5.39 Percentages for Responses to Extended-Response Question, "Treena's Budget," for the States 297

Table 5.40 National Results for Demographic Subgroups for the Extended-Response Task, "Radio Stations" 298

Table 5.41 Percentages for Responses to Extended-Response Question, "Radio Stations," for the States 299

Table 5.42 National Results for Demographic Subgroups for the Extended-Response Task, "Marcy Dot Pattern" 300

Table 5.43 Percentages for Responses to Extended-Response Question, "Marcy Dot Pattern," for the States 301

Table 5.44 National Results for Demographic Subgroups for the Extended-Response Task, "Effective Tax Rates" 322

Table 5.45 National Results for Demographic Subgroups for the Extended-Response Task, "Patterns of Squares" 323

Table 5.46 National Results for Demographic Subgroups for the Extended-Response Task, "Graphing Path of Object" 324

Table 5.47 National Percentages of Satisfactory or Better Responses to Extended-Response Questions 325

Table 5.48 Percentage of Satisfactory or Better Responses to Extended-Response Questions, for the States 326

Table 5.49 National Percentages of Satisfactory or Better Responses to Extended-Response Questions 327

Table 5.50 Percentage of Satisfactory or Better Responses to Extended-Response Questions, for the States 328

Table 5.51 National Percentages of Satisfactory or Better Responses to Extended-Response Questions 329

Table 5.52 Average Percentage Correct for Regular Constructed-Response Questions 330

Table 5.53 Average Percentage Correct for Regular Constructed-Response Questions, for the States 332

Table 5.54 Average Percentage Correct for Multiple-Choice Questions 334

Table 5.55 Average Percentage Correct for Multiple-Choice Questions, for the States 336

Table 5.56 Average Percentage Correct for Both Regular Constructed-Response and Multiple-Choice Questions 338

Table 5.57 Average Percentage Correct for Both Regular Constructed-Response and Multiple-Choice Mathematics Questions, for the States 340

Table 5.58 National Average Percentages by Teachers' Reports on the Instructional Emphasis Placed on Reasoning and Communicating 342

Table 5.59 Average Percentages for Difference Question Types by Students' Reports on High-School Algebra Courses 342

Table 5.60 Average Percentage Satisfactory or Better Responses to Extended-Response Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating, for the States 343

Table 5.61 Overall Average Percentage Correct for Regular Constructed-Response Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating, for the States 345

Table 5.62 Overall Average Percentage Correct for Multiple-Choice Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating, for the States 347

CHAPTER SIX Students' Perceptions of Mathematics 349

Overview 351

Table 6.1 Summary of Students' Positive Perceptions and Attitudes Toward Mathematics, Based on Questions Asked in 1992, Grades 4, 8, and 12 352

Table 6.2 Summary of Students' Positive Perceptions and Attitudes Toward Mathematics Based on Eight Questions Asked in 1992, for the States 353

Table 6.3 Summary of Trends in Students' Positive Perceptions and Attitudes Toward Mathematics, Based on Five Questions Asked in Both 1990 and 1992, Grades 4, 8, and 12 355

Table 6.4 Summary of Trends in Eighth Graders' Positive Perceptions and Attitudes Toward Mathematics Based on Five Questions Asked in Both 1990 and 1992, for the States 356

Students' Personal Experience with Mathematics 358

Table 6.5 Students' Responses to the Statement "I Like Mathematics," Grades 4, 8, and 12 358

Table 6.6 Students' Responses to the Statement "I Like Mathematics," for the States 360

Table 6.7 Students' Responses to the Statement "I am Good at Mathematics," Grades 4, 8, and 12 362

Table 6.8 Students' Responses to the Statement "I am Good at Mathematics" for the States 363

Table 6.9 Students' Responses to the Statement "Mathematics Is More for Boys than for Girls," Grades 4, 8, and 12 366

Table 6.10 Students' Responses to the Statement "Mathematics Is More for Boys than for Girls," for the States 367

Table 6.11 Students' Responses to the Statement "Mathematics Is More for Boys than for Girls", by Gender, for the States 370

Perceptions of the Utility of Mathematics 375

Table 6.12 Students' Responses to the Statement "Mathematics Is Useful for Solving Everyday Problems," Grades 4, 8, and 12 375

Table 6.13 Students' Responses to the Statement "Mathematics Is Useful for Solving Everyday Problems," for the States 376

Table 6.14 Students' Responses to the Statement "Almost All People Use Mathematics in Their Jobs," Grades 4, 8, and 12 379

Table 6.15 Students' Responses to the Statement "Almost All People Use Mathematics in Their Jobs" for the States 380

Table 6.16 Students' Responses to the Statement "I Understand Most of What Goes On in Mathematics Class," Grades 4, 8, and 12 383

Table 6.17 Students' Responses to the Statement "I Understand Most of What Goes on in Mathematics Class," for the States 384

Table 6.18 Students' Responses to the Statement "Learning Mathematics Is Mostly Memorizing Facts" for the States, Grades 4, 8, and 12 386

Table 6.19 Students' Responses to the Statement "Learning Mathematics Is Mostly Memorizing Facts," for the States 387

Table 6.20 Students' Responses to the Statement "If I Had a Choice, I Would Not Study Any More Mathematics," Grades 4 and 8 389

Table 6.21 Students' Responses to the Statement "If I Had a Choice, I Would Not Study Any More Mathematics," for the States 390

CHAPTER SEVEN Course-Taking Patterns for the Nation and the States 393

Overview 395

Average Proficiency by Number of Mathematics Courses Taken in Grades 9 through 12 396

Table 7.1 High-School Seniors' Reports on the Number of Semesters of High-School Mathematics Courses Taken in Grades 9 through 12 396

Average Proficiency in Algebra and Functions by Algebra Course Taking, Grade 12 398

Table 7.2 Average Proficiency in Algebra and Functions by Algebra Course Taking, Grade 12 398

Table 7.3 Average Proficiency of Students Related to the Grade Level at Which They Initially Took a First-Year Algebra Course, Grade 12 402

Average Proficiency in Geometry by Geometry and Trigonometry Course Taking, Grade 12 404

Table 7.4 Average Proficiency in Geometry by Geometry and Trigonometry Course Taking, Grade 12 404

Table 7.5 Average Proficiency in Data Analysis, Statistics, and Probability by Statistics Course Taking, Grade 12 405

Average Proficiency of Eighth-Grade Students by Algebra Course Taking 406

Table 7.6 Average Proficiency by Current Mathematics Course, Grade 8 406

Table 7.7 Average Proficiency by Current Mathematics Course, for the States 407

Table 7.8 Average Proficiency by Which Mathematics Class Plan to Take in Ninth Grade, Grade 8 409

Table 7.9 Average Proficiency by Which Mathematics Class Plan to Take in Ninth Grade, for the States 410

Schools' Reports on Percentages of Student in Schools with Various Course Offerings, by Region and Type of Community 411

Table 7.10 Schools' Reports on Percentages of Students in Schools with Various Course Offerings, by Region and Type of Community, Grade 12 411

Table 7.11 Schools' Reports on Percentages of Students in Schools Offering Algebra Courses for High-School Placement or Credit and Where Students Are Taught by Teachers Who Only Teach Mathematics, Grade 8 411

Table 7.12 Schools' Reports on Percentages of Students in Schools Offering Algebra Courses for High-School Placement or Credit and Where Students Are Taught by Teachers Who Only Teach Mathematics for the States, Grade 8 412

Table 7.13 High School Seniors' Reports on Currently Taking a Mathematics Course . . . 413

CHAPTER EIGHT Instructional Time and Emphases for the Nation and the States . . . 415

Overview . . . 417

Overall School Support and Emphasis on Mathematics . . . 418

Table 8.1 Schools' Reports on the Identification of Mathematics as a Priority, Grades 4 and 8 . . . 418

Table 8.2 Schools' Reports on the Identification of Mathematics as a Priority for the States, Grades 4 and 8 . . . 419

Amount of Mathematics Instructional Time and Homework, Grades 4 and 8 . . . 421

Table 8.3 Teachers' Reports on the Amount of Time Spent on Mathematics Instruction Each Week, Grades 4 and 8 . . . 421

Table 8.4 Teachers' Reports on the Amount of Time Spent on Mathematics Instruction Each Week for the States, Grades 4 and 8 . . . 422

Table 8.5 Teachers' Reports on the Amount of Mathematics Homework Assigned Each Day, Grades 4 and 8 . . . 424

Table 8.6 Teachers' Reports on the Amount of Mathematics Homework Assigned Each Day for the States, Grades 4 and 8 . . . 425

Table 8.7 Students' Reports on the Amount of Time Spent on Mathematics Homework Each Day, Grades 4, 8, and 12 . . . 428

Table 8.8 Students' Reports on the Amount of Time Spent on Mathematics Homework Each Day for the States, Grades 4 and 8 . . . 429

Instructional Emphases in Mathematics Content Areas . . . 432

Table 8.9 Teachers' Reports on the Instructional Emphasis Placed on Numbers and Operations, Grades 4 and 8 . . . 432

Table 8.10 Teachers' Reports on the Instructional Emphasis Placed on Numbers and Operations for the States, Grades 4 and 8 . . . 433

Table 8.11 Teachers' Reports on the Instructional Emphasis Placed on Measurement, Grades 4 and 8 . . . 435

Table 8.12 Teachers' Reports on the Instructional Emphasis Placed on Measurement for the States, Grades 4 and 8 . . . 436

Table 8.13 Teachers' Reports on the Instructional Emphasis Placed on Geometry, Grades 4 and 8 . . . 439

Table 8.14 Teachers' Reports on the Instructional Emphasis Placed on Geometry for the States, Grades 4 and 8 440

Table 8.15 Teachers' Reports on the Instructional Emphasis Placed on Data Analysis, Statistics, and Probability, Grades 4 and 8 443

Table 8.16 Teachers' Reports on the Instructional Emphasis Placed on Data Analysis, Statistics, and Probability for the States, Grades 4 and 8 444

Table 8.17 Teachers' Reports on the Instructional Emphasis Placed on Algebra and Functions, Grades 4 and 8 446

Table 8.18 Teachers' Reports on the Instructional Emphasis Placed on Algebra and Functions for the States, Grades 4 and 8 447

Table 8.19 Teachers' Reports on the Instructional Emphasis Placed on Specific Mathematics Skills and Abilities, Grades 4 and 8 450

Table 8.20 Teachers' Reports on Placing Heavy Instructional Emphasis on Specific Mathematics Skills and Abilities for the States, Grades 4 and 8 452

CHAPTER NINE Instructional Approaches for the Nation and the States 455

Overview 457

Class Size 458

Table 9.1 Teachers' Reports on the Number of Students in Their Classes, Grades 4 and 8 458

Table 9.2 Teachers' Reports on the Number of Students in Their Classes for the States, Grades 4 and 8 459

Ability Grouping 461

Table 9.3 Teachers' Reports on the Prevalence of Ability Grouping, Grades 4 and 8 461

Table 9.4 Teachers' Reports on the Prevalence of Ability Grouping for the States, Grades 4 and 8 462

Table 9.5 Teachers' Reports on the Ability Levels of Their Students' Classes, Grades 4 and 8 464

Table 9.6 Teachers' Reports on the Ability Levels of Their Students' Classes for the States, Grades 4 and 8 465

Use of Instructional Materials 468

Table 9.7 Teachers' Reports on the Frequency with Which Students Do Mathematics Problems from Textbooks and Worksheets, Grades 4 and 8 . . . 468

Table 9.8 Students' Reports on the Frequency with Which They Do Mathematics Problems from Textbooks and Worksheets in Mathematics Class, Grades 4, 8, and 12 . . . 470

Table 9.9 Teachers' Reports on the Frequency with Which Students Do Mathematics Problems from Textbooks in Mathematics Class for the States, Grades 4 and 8 . . . 471

Table 9.10 Students' Reports on the Frequency with Which They Do Mathematics Problems from Textbooks in Mathematics Class for the States, Grades 4 and 8 . . . 474

Table 9.11 Teachers' Reports on the Frequency with Which Students Do Mathematics Problems on Worksheets in Mathematics Class for the States, Grades 4 and 8 . . . 477

Table 9.12 Students' Reports on the Frequency with Which They Do Mathematics Problems on Worksheets in Mathematics Class for the States, Grades 4 and 8 . . . 480

Small Group Activities and Projects . . . 483

Table 9.13 Teachers' Reports on the Frequency of Small Group Activities and Projects in Mathematics Class, Grades 4 and 8 . . . 483

Table 9.14 Students' Reports on the Frequency of Small Group Activities and Projects in Mathematics Class, Grades 4, 8, and 12 . . . 485

Table 9.15 Teachers' Reports on the Frequency with Which Students Work in Small Groups in Mathematics Class for the States . . . 486

Table 9.16 Students' Reports on the Frequency with Which They Work in Small Groups in Mathematics Class for the States . . . 489

Table 9.17 Teachers' Reports on the Frequency of Projects in Mathematics Class, for the States . . . 492

Table 9.18 Students' Reports on the Frequency of Projects in Mathematics Class, for the States . . . 495

Manipulatives . . . 497

Table 9.19 Teachers' Reports on the Frequency with Which Students Do Work with Objects Like Rulers, Counting Blocks or Geometric Shapes in Mathematics Class at Grade 4, and with Measuring Instruments or Geometric Solids at Grade 8 . . . 497

Table 9.20 Students' Reports on the Frequency with Which Students Do Work with Objects Like Rulers, Counting Blocks or Geometric Shapes in Mathematics Class, at Grade 4, and with Measuring Instruments or Geometric Solids at Grades 8 and 12 498

Table 9.21 Teachers' Reports on the Frequency with Which Students Do Work with Objects Like Rulers, Counting Blocks or Geometric Shapes in Mathematics Class, for the States 499

Table 9.22 Students' Reports on the Frequency with Which They Work with Objects Like Rulers, Counting Blocks, or Geometric Shapes in Mathematics Class, for the States 500

Table 9.23 Teachers' Reports on the Frequency with Which Students Do Work with Measuring Instruments or Geometric Solids, for the States 501

Table 9.24 Students' Reports on the Frequency with Which They Do Work with Measuring Instruments or Geometric Solids for the States 502

Availability of Resources 503

Table 9.25 Teachers' Reports on the Availability of Resources, Grades 4 and 8 503

Table 9.26 Teachers' Reports on "How Well Supplied Are You by Your School System with the Instructional Materials and Other Resources You Need to Teach Your Class?", for the States 504

Frequency of Testing 507

Table 9.27 Teachers' Reports on the Frequency of Testing, Grades 4 and 8 507

Table 9.28 Students' Reports on How Often They Take Mathematics Tests, Grades 4, 8, and 12 508

Table 9.29 Teachers' Reports on How Often They Use Multiple-Choice Mathematics Tests to Assess Student Progress, for the States 509

Table 9.30 Teachers' Reports on How Often They Use Problem Sets to Assess Student Progress, for the States 511

Table 9.31 Teachers' Reports on How Often They Use Short Written Responses to Assess Student Progress, for the States 513

Table 9.32 Teachers' Reports on How Often They Use Projects, Portfolios, or Presentations to Assess Student Progress, for the States 515

Table 9.33 Students' Reports on How Often They Take Mathematics Tests, for the States 517

Helping Students to Think About Mathematics 520

Table 9.34 Teachers' Reports on How Often They Ask Students to Write a Few Sentences About How to Solve a Mathematics Problem and Make Up Mathematics Problems for Other Students to Solve, Grades 4 and 8 520

Table 9.35 Students' Reports on the Frequency with Which They Write Sentences About How to Solve a Mathematics Problem and Make Up Mathematics Problems for Other Students to Solve, Grades 8 and 12 521

Table 9.36 Teachers' Reports on How Often They Ask Students to Write a Few Sentences About How to Solve a Mathematics Problem, for the States 522

Table 9.37 Students' Reports on How Often They Write a Few Sentences About How to Solve a Mathematics Problem, for the States 524

Table 9.38 Teachers' Reports on the Frequency with Which Students Make up Mathematics Problems for Other Students to Solve, for the States 525

Table 9.39 Students' Reports on the Frequency with Which They Make Up Mathematics Problems for Other Students to Solve, for the States 527

Table 9.40 Teachers' Reports on How Often They Ask Students to Discuss Solutions to Mathematics Problems with Other Students, Grades 4 and 8 528

Table 9.41 Teachers' Reports on How Often They Ask Students to Discuss Solutions to Mathematics Problems with Other Students, for the States 529

Table 9.42 Teachers' Reports on How Often They Ask Students to Work and Discuss Mathematics Problems that Reflect Real-Life Situations, Grades 4 and 8 531

Table 9.43 Teachers' Reports on How Often They Ask Students to Work and Discuss Mathematics Problems that Reflect Real-Life Situations, for the States 532

CHAPTER TEN Use of Calculators and Computers in the Nation and the States 535

Overview 537

Teachers' Policies for Using Calculators in Mathematics Class 538

Table 10.1 Teachers' Reports on Permitting the Use of Calculators in Mathematics Class, Grades 4 and 8 538

Table 10.2 Teachers' Reports on Permitting the Use of Calculators in Mathematics Class, for the States 539

Table 10.3 Teachers' Reports on Permitting the Use of Calculators on Tests, Grades 4 and 8 541

Table 10.4 Teachers' Reports on Permitting the Use of Calculators on Tests, for the States 542

Students' Access to Calculators 544

Table 10.5 Teachers' Reports on Students' Access to School-Owned Calculators for Mathematics Schoolwork, Grades 4 and 8 544

Table 10.6 Teachers' Reports on Students' Access to School-Owned Calculators for Mathematics Schoolwork, for the States 545

Table 10.7 Teachers' Reports on Students' Access to School-Owned 4-Function and Scientific Calculators, for the States 546

Table 10.8 Students' Reports on Having a Calculator to Use for Mathematics Schoolwork, Grades 4, 8, and 12 547

Table 10.9 Students' Reports on Having a Calculator to Use for Mathematics Schoolwork, for the States 548

Table 10.10 Students' Reports on Their Use of Scientific Calculators, Grades 8 and 12 550

Table 10.11 Students' Reports on Their Use of Scientific Calculators, for the States 551

Use of Calculators in Mathematics Instruction 552

Table 10.12 Teachers' Reports on the Frequency of Use of Calculators in Mathematics Class, Grades 4 and 8 552

Table 10.13 Students' Reports on the Frequency of Use of Calculators in Mathematics Class, Grades 4, 8, and 12 553

Table 10.14 Teachers' Reports on the Frequency of Use of Calculators in Mathematics Class, for the States 554

Table 10.15 Students' Reports on the Frequency of Use of Calculators in Mathematics Class, for the States 557

Table 10.16 Students' Understanding of When to Use a Calculator, Grades 4, 8, and 12 560

Table 10.17 Students' Understanding of When to Use a Calculator, for the States 561

Availability of Computers 563

Table 10.18 Schools' Reports on the Availability of Computers for Student Use, Grades 4, 8, and 12 563

Table 10.19 Schools' Reports on the Availability of Computers for Student Use, for the States 564

Table 10.20 Teachers' Reports on the Availability of Computers for Student Use, Grades 4 and 8 . . . 566

Table 10.21 Teachers' Reports on the Availability of Computers for Student Use, for the States . . . 567

Table 10.22 Students' Reports on the Frequency of Computer Use for Schoolwork, Grades 4, 8, and 12 . . . 570

Table 10.23 Students' Reports on the Frequency of Computer Use for Schoolwork, for the States . . . 571

Use of Computers in Mathematics Instruction . . . 573

Table 10.24 Teachers' Reports on the Frequency of Computer Use in Mathematics Class, Grades 4 and 8 . . . 573

Table 10.25 Students' Reports on the Frequency of Computer Use in Mathematics Class, Grades 4, 8, and 12 . . . 574

Table 10.26 Teachers' Reports on the Frequency of Computer Use in Mathematics Class, for the States . . . 575

Table 10.27 Students' Reports on the Frequency of Computer Use in Mathematics Class, for the States . . . 578

Table 10.28 Teachers' Reports on the Primary Use of Computers for Instruction, Grades 4 and 8 . . . 581

Table 10.29 Teachers' Reports on the Primary Use of Computers for Instruction, for the States . . . 582

CHAPTER ELEVEN Characteristics of Fourth- and Eighth-Grade Mathematics Teachers . . . 585

Overview . . . 587

Years of Teaching Experience . . . 588

Table 11.1 Teachers' Reports on Number of Years' Overall Teaching Experience at the Elementary or Secondary Level, Grades 4 and 8 . . . 588

Table 11.2 Teachers' Reports on Number of Years' Overall Teaching Experience at the Elementary or Secondary Level, for the States . . . 589

Table 11.3 Teachers' Reports on the Number of Years' They Have Taught Mathematics, for the States . . . 592

Gender and Race/Ethnicity . . . 594

26

Table 11.4 Teachers' Reports on Their Gender and Race/Ethnicity, Grades 4 and 8 594

Table 11.5 Teachers' Reports on Their Gender and Race/Ethnicity, for the States 595

Level and Type of Certification 598

Table 11.6 Teachers' Reports on Their Level and Type of Teaching Certification, Grades 4 and 8 598

Table 11.7 Teachers' Reports on Their Level of Teaching Certification, for the States 599

Table 11.8 Teachers' Reports on the Type of Their Teaching Certification, for the States 602

Pre-Service Training 605

Table 11.9 Teachers' Reports on Their Highest Academic Degree, Grades 4 and 8 605

Table 11.10 Teachers' Reports on Their Highest Academic Degree, for the States 606

Table 11.11 Teachers' Reports on Their Undergraduate and Graduate Majors, Grades 4 and 8 609

Table 11.12 Teachers' Reports on Their Undergraduate Major, for the States 610

Table 11.13 Teachers' Reports on Their Graduate Major, for the States 612

Table 11.14 Teachers' Reports on Their Exposure to Mathematics Topics or Areas, Grades 4 and 8 614

Table 11.15 Teachers' Reports on Their Exposure to Methods of Teaching Mathematics, for the States 615

Table 11.16 Teachers' Reports on Their Exposure to Number Systems and Numeration, for the States 617

Table 11.17 Teachers' Reports on Their Exposure to Measurement in Mathematics, for the States 619

Table 11.18 Teachers' Reports on Their Exposure to Geometry, for the States 621

Table 11.19 Teachers' Reports on Their Exposure to Probability and Statistics, for the States 623

Table 11.20 Teachers' Reports on Their Exposure to Abstract or Linear Algebra, for the States 625

Table 11.21 Teachers' Reports on Their Exposure to Calculus, for the States 627

Table 11.22 Teachers' Reports on Mathematics College Courses Taken Summarized Across Six Mathematics Areas, Grades 4 and 8 629

Table 11.23 Teachers' Reports on Mathematics College Courses Taken Summarized Across Six Mathematics Areas for the States 630

Professional Development 632

Table 11.24 Teachers' Reports on the Amount of Time Spent on In-Service Education in Mathematics or the Teaching of Mathematics During the Last Year, Grades 4 and 8 632

Table 11.25 Teachers' Reports on the Amount of Time Spent on In-Service Education in Mathematics or the Teaching of Mathematics During the Last Year, for the States 633

Table 11.26 Teachers' Reports on Their Training in Mathematics and Teaching Mathematics, Grades 4 and 8 636

Table 11.27 Teachers' Reports on Their College Courses and In-Service Training in Mathematics -- Estimation, for the States 637

Table 11.28 Teachers' Reports on Their College Courses and In-Service Training in Mathematics -- Problem Solving, for the States 639

Table 11.29 Teachers' Reports on Their College Courses and In-Service Training in Mathematics -- Manipulatives, for the States 641

Table 11.30 Teachers' Reports on Their College Courses and In-Service Training in Mathematics -- Calculators, for the States 642

Table 11.31 Teachers' Reports on Their College Courses and In-Service Training in Mathematics -- Understanding Students' Thinking About Mathematics for the States 645

Table 11.32 Teachers' Reports on Their College Courses and In-Service Training in Mathematics -- Gender Issues, for the States 647

Table 11.33 Teachers' Reports on Their College Courses and In-Service Training in Mathematics -- Teaching Students from Different Cultural Backgrounds, for the States 649

Table 11.34 Teachers' Reports on Degree of Preparation for Teaching Mathematics Concepts, Computers, and Calculators, Grades 4 and 8 651

Table 11.35 Teachers' Reports on Degree of Preparation for Teaching Mathematics Concepts, for the States 652

Table 11.36 Teachers' Reports on Degree of Preparation for Teaching Computers 654

Table 11.37 Teachers' Reports on Degree of Preparation for Teaching Calculators 656

CHAPTER TWELVE Student Motivation on NAEP's 1992 Assessment for the Nation and the States 659

Overview 661

Table 12.1 Students' Reports on Number of Questions They Thought They Answered Correctly on the NAEP Mathematics Test, Grades 4, 8, and 12 662

Table 12.2 Students' Reports on Number of Questions They Thought They Answered Correctly on the NAEP Mathematics Test, for the States 663

Table 12.3 Students' Reports on Degree of Difficulty of the NAEP Test Compared with Other Mathematics Tests Taken This Year, Grades 4, 8, and 12 665

Table 12.4 Students' Reports on Degree of Difficulty of the NAEP Test Compared with Other Mathematics Tests Taken This Year, for the States 666

Table 12.5 Students' Reports on How Hard They Tried on the NAEP Test Compared with Other Mathematics Tests Taken This Year In School, Grades 4, 8, and 12 668

Table 12.6 Students' Reports on How Hard They Tried on the NAEP Test Compared with Other Mathematics Tests Taken This Year in School, for the States 669

Table 12.7 Students' Reports on How Important It Was for Them to Perform Well on the NAEP Mathematics Test, Grades 4, 8, and 12 671

Table 12.8 Students' Reports on How Important It Was for Them to Perform Well on the NAEP Mathematics Test, for the States 672

Table 12.9 Students' Reports on Their Mathematics Test Experience in Providing Detailed Solutions to Mathematics Problems Not Worked on Previously, Grades 4, 8, and 12 674

Table 12.10 Students' Reports on How Often They Take Mathematics Test Requiring Detailed Solutions to Mathematics Problems They Had Not Worked on Previously, for the States . . . 675

CHAPTER THIRTEEN Achievement by Academic Emphasis in the Home for the Nation and the States . . . 677

Overview . . . 679

Reading Materials and Homework . . . 680

Table 13.1 Students' Reports of Types of Reading Materials in the Home, Grades 4, 8, and 12 . . . 680

Table 13.2 Students' Reports of Types of Reading Materials in the Home, for the States . . . 681

Table 13.3 Students' Reports on Time Spent on Homework Each Day for All Subjects, Grades 4, 8, and 12 . . . 684

Table 13.4 Students' Reports on Time Spent on Homework Each Day for All Subjects, for the States . . . 686

Table 13.5 Students' Reports on Number of Pages Read Each Day for School and Homework for All Subjects, Grades 4, 8, and 12 . . . 690

Table 13.6 Students' Reports on Number of Pages Read Each Day for School and Homework for All Subjects, for the States . . . 691

School Attendance . . . 694

Table 13.7 Students' Reports on Days Absent from School During the Last Month, Grades 8 and 12 . . . 694

Table 13.8 Students' Reports on Days Absent from School During the Last Month, for the States . . . 695

Parental Influence . . . 697

Table 13.9 Students' Reports on Extent to Which They Discuss Schoolwork with Someone at Home, Grades 4, 8, and 12 . . . 697

Table 13.10 Students' Reports on Extent to Which They Discuss Schoolwork with Someone at Home, for the States . . . 698

Table 13.11 Students' Reports on Number of Parents Living at Home, Grades 4, 8, and 12 . . . 700

Table 13.12 Students' Reports on Number of Parents Living at Home, for the States . . . 701

Television Watching . . . 704

Table 13.13 Students' Reports on Amount of Time Spent Watching Television Each Day, Grades 4, 8, and 12 704

Table 13.14 Students' Reports on Amount of Time Spent Watching Television Each Day, for the States 705

Table 13.15 Students' Report Whether They Were Born in the United States or One of the United States' Territories, Grades 4, 8, and 12 708

Table 13.16 Students' Reports on Whether They Were Born in the United States or One of the United States' Territories, for the States 709

Mobility 711

Table 13.17 Students' Reports on Number of Times They Changed Schools During the Past Two Years Because They Changed Where They Lived, Grades 4 and 8 711

Table 13.18 Students' Reports on Number of Times They Changed Schools During the Past Two Years Because They Changed Where They Lived, for the States 712

Table 13.19 Students' Reports on Number of Grades They Have Attended School in the State from Kindergarten Through Fourth Grade, for the States 714

Table 13.20 Students' Reports on Number of Grades They Have Attended School in the State from Kindergarten Through Eighth Grade, for the States 715

APPENDIX A What Students Know and Can Do in Mathematics: NAEP's Anchor-Level Results 717

Overview 719

Table A.1 National Overall Average Mathematics Proficiency and Anchor Levels, Grades 4, 8, and 12 721

Figure A.1 Description of Mathematics Proficiency for Four Anchor Levels on the NAEP Scale 722

Table A.2 Overall Average Mathematics Proficiency and Anchor Levels, for the States 724

Table A.3 Average Mathematics Proficiency and Anchor Levels by Region, Grades 4, 8, and 12 742

Anchor Level Results by Race Ethnicity 743

Table A.4 Average Mathematics Proficiency and Anchor Levels by Race/Ethnicity, Grades 4, 8, and 12 743

Table A.5 Anchor Levels by Race/Ethnicity, for the States 745

Anchor-Level Results by Gender 751

Table A.6 Average Mathematics Proficiency and Anchor Levels by Gender, Grades 4, 8, and 12 751

Table A.7 Anchor Levels by Gender, for the States 752

Anchor-Level Results by Type of Community 755

Table A.8 Average Mathematics Proficiency and Anchor Levels by Type of Community, Grades 4, 8, and 12 755

Table A.9 Anchor Levels by Type of Community, for the States 756

Anchor-Level Results by Parents' Highest Level of Education 762

Table A.10 Average Mathematics Proficiency and Anchor Levels by Parents' Highest Level of Education, Grades 4, 8, and 12 762

Table A.11 Anchor Levels by Parents' Highest Level of Education, for the States 763

Anchor-Level Results by Type of School 769

Table A.12 Average Mathematics Proficiency and Anchor Levels by Type of School, Grades 4, 8, and 12 769

Anchor-Level Results by School Performance 770

Table A.13 Average Mathematics Proficiency and Anchor Levels for the Top One-Third of the Schools and the Bottom One-Third of the Schools, Grades 4, 8, and 12 770

Table A.14 Average Mathematics Proficiency and Anchor Levels for the Top One-Third of the Schools, for the States 771

Table A.15 Average Mathematics Proficiency and Anchor Levels for the Bottom One-Third of the Schools, for the States 774

Appendix B Guidelines for Sample Participation and Explanation of Derivation of Weighted Participation 777

Overview 779

Notations for Use in Reporting School and Student Participation Rates 781

Derivation of Weighted Participation Rates 783

Derivation of Weighted Percentages for Excluded Students 786

Table B.1 School Participation Rates for the States 788

Table B.2 Student Participation Rates for the States 791

Table B.3 Summary of School and Student Participation for the States 794

Table B.4 Weighted Percentages of Students Excluded (IEP and LEP) from Original Sample, for the States 796

Table B.5 Weighted Percentages of Absent, IEP, and LEP Students Based on Those Invited to Participate in the Assessment for the States 798

Table B.6 Questionnaire Response Rates for the States 800

APPENDIX C State Contextual Background Factors: Summary of Students'Characteristics by Race/Ethnicity and Type of Community and Co-Statistics From Sources External to NAEP 803

Overview 805

Table C.1 Characteristics of NAEP Students by Race/Ethnicity and by Type of Community, for the States 805

Table C.2 Population Characteristics from Non-NAEP Sources, for the States 808

Table C.3 School System Characteristics from Non-NAEP Sources, for the States 809

Table C.4 Curricula and School Policies from Non-NAEP Sources, for the States 810

APPENDIX D Overview of Procedures Used in the 1992 Mathematics Assessments 813

Overview 815

NAEP's 1992 Mathematics Assessment 816

Table D.1 Percentage Distribution of Questions by Grade and Content Area 816

Table D.2 Percentage Distribution of Questions by Grade and Mathematical Ability 817

The Assessment Design 817

Teacher and School Questionnaire 819

National Sampling 820

Table D.3 Student and School Sample Sizes, 1992 and 1990 821

Trial State Assessment Sampling 821

Excluded Students 822

Data Collection 823

Scoring 824

Data Analysis and IRT Scaling 825

Linking the Trial State Results to the National Results 826

Reanalysis of 1990 Results 827

Effects of Excluded and Absent Students 828

Table D.4 Percentiles of Overall Mathematics Proficiency Under Two Treatments of Excluded and Absent Students, Grade 4 830

Table D.5 Percentiles of Overall Mathematics Proficiency Under Two Treatments of Excluded and Absent Students, Grade 8 830

Table D.6 Percentiles of Overall Mathematics Proficiency Under Two Treatments of Excluded and Absent Students, Grade 12 831

NAEP Reporting Groups 831

Table D.7 Average Mathematics Proficiency of Type of Community Using 1990 Criteria 833

Minimum Subgroup Sample Sizes 835

Estimating Variability 835

Achievement Levels 836

Table D.8 Cutpoints for Achievement Levels 838

Scale Anchoring 839

Drawing Inferences from the Results 841

APPENDIX E Mean Proficiencies, Standard Deviations, and Percentiles for National Demographic Subpopulations 845

NAEP 1990 and 1992 Math Assessments - Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 4 847

NAEP 1990 and 1992 Math Assessments - Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 8 849

NAEP 1990 and 1992 Math Assessments - Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 12 851

ACKNOWLEDGMENTS 853

INTRODUCTION

The National Assessment of Educational Progress (NAEP) is a Congressionally mandated project of the National Center for Education Statistics (NCES) that has collected and reported information for nearly 25 years on what American students know and what they can do. It is the nation's only ongoing, comparable, and representative assessment of student achievement. Its assessments are given to scientific samples of youths attending both public and private schools and enrolled in grades four, eight, or twelve. The assessment questions are written around a framework prepared for each content area -- reading, writing, math, science, and others -- that represents the consensus of groups of curriculum experts, educators, members of the general public, and user groups on what should be covered on such a test. Reporting includes means and distributions of scores, as well as more descriptive information about the meaning of different points on the NAEP scale.

This report documents the results of NAEP's 1992 mathematics assessment and provides comparisons to the findings from a comparable survey conducted in 1990. To maximize the range of data presented, this compendium contains little prose. The compendium serves as a valuable reference volume which presents a diverse array of student, demographic, educational, and background characteristics. It provides a wealth of data, virtually all of it in table or chart form, which make it the most comprehensive documentation of results available for the 1992 mathematics assessment. More detailed discussion and analyses of specific mathematics issues can be found in the four "focused reports" created based on the data contained in this compendium. The *NAEP 1992 Mathematics Report Card for the Nation and the States* contains the overall achievement results, while subsequent reports will focus on the constructed-response questions, school-related contextual factors, and the NAEP results from the perspective of the *NCTM Standards*.

Scope of the Assessment

NAEP's 1992 mathematics assessment included nearly 250,000 fourth-, eighth-, and twelfth-grade students attending approximately 10,000 schools across the nation and the states. The assessment itself was forward-looking, comprising several hundred questions at each of the grades assessed. Consistent with the standards of the National Council of Teachers of Mathematics (NCTM), many of the questions required students to construct their responses and some questions asked for explanations of their reasoning. For various portions of the assessment, mathematical tools and aids were supplied, including scientific calculators, protractor/rulers, and geometric shapes. One portion was administered using a special audiotape to pace students through estimation questions.

Nationally representative samples of students attending both public and private schools were assessed at grades 4, 8, and 12. In addition, samples of fourth and eighth graders attending public schools were assessed in 44 jurisdictions.

These participants include:

Alabama
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Hawaii
Idaho
Indiana
Iowa
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Nebraska
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Ohio
Oklahoma
Pennsylvania
Rhode Island
South Carolina
Tennessee
Texas
Utah
Virginia
West Virginia
Wisconsin
Wyoming

Guam
Virgin Islands*

* The Virgin Islands participated in the testing portion of the 1992 Trial State assessment Program. However, in accordance with the legislation providing for participants to review and give permission for release of their results, the Virgin Islands chose not to release their results at grade 4 in the national compendium report.

Trend results from a comparable assessment conducted in 1990 are available for the nation and for the 37 states and territories (noted above in bold-faced type) that participated in both the 1990 and 1992 program at grade 8.

NAEP's Trial State Assessment Program was begun in 1990 at grade 8 and expanded in 1992 to include both grades 4 and 8.

The Assessment Framework

The mathematics objectives framework underlying the assessments was developed under the auspices of the Council of Chief State School Officers (CCSSO) through a special NAEP Planning Project sponsored by the National Center for Education Statistics (NCES) and the National Science Foundation.[1] Although those involved in the legislatively mandated consensus development process drew upon the available draft of the *Curriculum and Evaluation Standards for School Mathematics*, developed by the National Council of Teachers of Mathematics,[2] the project involved widespread participation and review, including an objectives committee of mathematics educators; a steering committee with 18 members representing policymakers, practitioners, and citizens at large; distribution to the mathematics supervisors in the education agencies of all 50 states for review by state committees; reviews by mathematics scholars and NCES staff; and endorsement by the National Assessment Governing Board (NAGB) for both the 1990 and 1992 assessments.

The mathematics objectives were designed as a matrix comprising five broad content areas and three levels of mathematical ability. The five content areas are: numbers and operations; measurement; geometry; data analysis, statistics, and probability; and algebra and functions. The mathematical abilities are: conceptual understanding, procedural knowledge, and problem solving.

The 1990 assessment included a broad range of questions that required students to solve problems in both constructed-response and multiple-choice formats, provide responses using protractors/rulers, and use calculators (four-function at grade 4 and scientific at grades 8 and 12). For 1992, the assessments were expanded to include "manipulable" geometric shapes as well as questions that allowed students about five minutes to demonstrate -- in writing and diagrams -- their mathematical reasoning and problem-solving ability. In general, a greater emphasis was placed on questions asking students to construct their responses and the proportion of multiple-choice questions was reduced. Also, a special component of the assessment in which students are led by audiotape through a series of tasks designed to measure their estimation skills (conducted only at the national level in 1990) was included in the state assessments in 1992. By pacing students through a series of problems, this portion of the assessment reveals whether students can provide reasonable estimates of answers without doing the actual computation. To supplement the achievement results, students, teachers, and school administrators were asked to complete questionnaires about their backgrounds and instructional practices in mathematics.

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[1] *Mathematics Objectives, 1990 Assessment* (Princeton, NJ: National Assessment of Educational Progress, Educational Testing Service, 1988).

[2] *Curriculum and Evaluation Standards for School Mathematics* (Reston VA: National Council of Teachers of Mathematics, 1989)

In both 1990 and 1992, identical assessment instruments were used in both the national and trial state assessments. A portion of the questions in the 1992 assessment were carried forward from 1990 to provide a basis for measuring trends between the two assessments.

The questions and background questionnaires were developed by staff and consultants at Educational Testing Service (ETS), which conducted the work under contract with NCES, with the guidance of panels of distinguished educators, and in accordance with the *ETS Standards for Quality and Fairness*.[3] Subsequent to rigorous internal review, the NAEP materials were further reviewed by NCES, NAGB, and the Office of Management and Budget. All materials used in the Trial State Assessments were reviewed by state agency personnel (both mathematics and testing experts).

The Conduct of the 1990 and 1992 Assessments

As with all NAEP assessments, the schools and students participating in the 1990 and 1992 mathematics assessments were selected through scientifically designed stratified random sampling procedures. Approximately 26,000 fourth, eighth, and twelfth graders in 1,500 public and private schools across the country participated in the national assessment. For each jurisdiction participating in the Trial State Assessment Program, approximately 2,500 students were sampled from approximately 100 public schools for each grade and curriculum area. Thus, a total of approximately 220,000 fourth- and eighth-grade students attending nearly 9,000 public schools participated in the 1992 trial state assessments.

All NAEP data are collected by trained administrators. Data for the national assessment were collected by a field staff managed by the ETS subcontractor, Westat, Inc. However, in accordance with the NAEP legislation, data collection for the Trial State Assessment Program was the responsibility of each participating jurisdiction. Uniformity of procedures across states was achieved through training and quality control monitoring by Westat, Inc. In 1990, Westat staff trained about 4,000 state assessment administrators using a video presentation accompanied by a scripted trainer's guide and practice exercises. Parallel procedures were used in 1992 when Westat trained nearly 10,000 state personnel. Quality control was provided by unannounced, random monitoring of half the sessions in each state. The results of the monitoring in 1990 and 1992 indicated a high degree of quality and uniformity across sessions.

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[3] *ETS Standards for Quality and Fairness* (Princeton, NJ: Educational Testing Service, 1987).

The materials, including approximately two million written responses constructed by students in 1990 and four million in 1992, were scored by a second subcontractor, National Computer Systems, and the results were analyzed by Educational Testing Service. As expected, numerous quality control steps were undertaken to ensure the accuracy of the results. Throughout, NCES and its contractors worked closely with the Trial State Assessment NETWORK, which includes representatives from all interested states. Federal funding permitted state education personnel to meet with staff members from NCES, the contractors, NAGB, and CCSSO at NETWORK meetings regularly held to review NAEP materials and procedures.

The Achievement Levels

As part of its congressionally specified responsibilities, the National Assessment Governing Board (NAGB) established three achievement levels for reporting NAEP results: *Basic*, *Proficient*, and *Advanced*. Performance at the *Basic* level denotes partial mastery of the knowledge and skills fundamental for proficient work at each grade level. The central level, *Proficient*, represents solid academic performance at each grade level assessed. Achievement at the *Advanced* level signifies superior performance at the grades assessed. Full definitions of these levels are presented on the following page. To carry out the task of applying these standards to the 1992 mathematics assessment, NAGB contracted with American College Testing to undertake advisory and analytic functions that could assist the Board in forming its conclusions as to appropriate achievement levels.[4]

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[4] Appendix D provides more information about the process of gathering expert judgments about Basic, Proficient, and Advanced performance -- as defined by NAGB policy -- on each mathematics item, combining the various judgments on the various items and mapping them onto the scale, and setting the scale-score cutpoints for reporting purposes based on these levels.

Definitions of Achievement Levels

Basic. This level, below proficient, denotes partial mastery of knowledge and skills that are fundamental for proficient work at each grade -- 4, 8, and 12. For 12th grade, this is higher than minimum competency skills (which normally are taught in elementary and junior high schools) and covers significant elements of standard high-school-level work.

Proficient. This central level represents solid academic performance for each grade tested -- 4, 8, and 12. It reflects a consensus that students reaching this level have demonstrated competency over challenging subject matter and are well prepared for the next level of schooling. At grade 12, the proficient level encompasses a body of subject-matter knowledge and analytical skills, of cultural literacy and insight, that all high school graduates should have for democratic citizenship, responsible adulthood, and productive work.

Advanced. This higher level signifies superior performance beyond proficient grade-level mastery at grades 4, 8, and 12. For 12th grade, the advanced level shows readiness for rigorous college courses, advanced technical training, or employment requiring advanced academic achievement. As data become available, it may be based in part on international comparisons of academic achievement and may also be related to Advanced Placement and other college placement exams.

A Recent History of NAEP Reporting

Over time there have been many changes in emphasis of NAEP testing and reporting both to take advantage of new technologies and to reflect changing trends in education. In 1984, a new technology called Item Response Theory (IRT) made it possible to create "scale scores" for NAEP similar to those the public was accustomed to seeing for the annual Scholastic Aptitude Tests (SAT). Educational Testing Service, in its role as Government grantee carrying out NAEP operations, devised a new way to describe performance against this scale, called "anchor levels." Starting in 1984, NAEP results were reported by "anchor levels." Anchor levels describe distributions of performance at selected points along the NAEP scale (i.e., standard deviation units). Anchor levels show how groups of students perform relative to each other, but not whether this performance is adequate.

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In 1988, Congress authorized a new aspect of NAEP that allowed states and territories to participate voluntarily in a trial state assessment, using samples representative of their own students, to provide state-level data comparable to the nation and each of the other participating jurisdictions. Pursuant to that law, in 1990, the mathematics achievement of eighth graders was assessed in 40 jurisdictions (states, territories, and the District of Columbia). The results were reported in *The State of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial State Assessment of the States (Washington, DC: National Center for Education Statistics, 1991).*

In the same 1988 law, Congress established the National Assessment Governing Board (NAGB), assigning it broad policy making authority over NAEP, including the authority to take "appropriate actions . . . to improve the form and use of the National Assessment" and to identify "appropriate achievement goals for each . . . grade and subject area to be tested in the National Assessment." To carry out its responsibilities, NAGB developed achievement levels, which are collective judgments about how students perform, translated into ranges along the NAEP scale. The process was conducted for NAGB under contract by American College Testing (ACT), which has extensive experience in standard-setting in many fields. The standards setting process began with questions such as, "What *should* students know and be able to do if they are proficient in mathematics in the fourth, eighth, or twelfth grade?" The National Assessment Governing Board, after wide consultation including public hearings, developed statements to describe what students should know and be able to do at three levels of proficiency -- "Basic," "Proficient," and "Advanced" -- for each of the three NAEP grades. A panel of expert and broadly representative judges evaluated each NAEP item, judged the proportion of students at each level which should answer the items correctly, and made recommendations that resulted in points along the NAEP scale that corresponded with the minimum score for each of these levels.

In 1990, after Congress had mandated pilot testing at the state level to supplement what had only been conducted for the nation and four large regions, the more rigorous content of the mathematics standards prepared by the National Council of Teachers of Mathematics began to influence the NAEP frameworks.

Also in 1990, the President and the nations's 50 governors adopted six National Education Goals, including one that calls for American students to "leave grades 4, 8, and 12 having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography." The adoption of this goal highlighted a perceived deficiency in the Nation's ability to report on the performance of students relative to standards developed through a consensus process.

A Transition Phase in Reporting

The 1992 mathematics reports mark NCES's first attempt to shift to standards-based reporting of National Assessment statistics. The transition is being made now to report NAEP results by "achievement levels." Achievement levels describe how students should perform relative to a body of content reflected in the NAEP frameworks (i.e., how much students should know). The impetus for this shift lies in the belief that NAEP data will take on more meaning for the public if they show what proportion of our youth are able to meet standards of performance necessary for a changing world. Chapter One of the report contains the descriptions of the mathematics achievement levels, the results, and provides examples of assessment exercises that illustrate the mathematics content reflected in the descriptions of the NAEP achievement levels.

Reporting NAEP results on the basis of achievement levels represents a significant change in practice for NCES. On occasion, this agency makes use of emerging analytical approaches that permit new, and sometimes controversial, analyses to be done. Just as other statistical agencies do when introducing new measures to supplement or replace old measures, NCES has in this report provided the data according to the earlier procedures in addition to the new procedures. For this reason, in addition to NAEP results reported according to achievement levels, results according to the scale anchoring procedure that has been used since the 1984 assessment can be found in Appendix A to this report. Presenting the data both ways gives the public -- not just technical evaluators -- an opportunity to be informed, so that all data users will be able to assess for themselves how well the various forms of reporting and interpreting the data meet their needs.

NCES realizes that modifications and improvements may be necessary in the future as current procedures are evaluated and new approaches are considered. NCES conceives of this process as a research and developmental activity in which numerous statistical, psychometric, and substantive issues must be resolved. We believe that the numerous completed and ongoing studies[5] will lead to national debate that will assure the public is well informed about these issues -- as informed they must be because the results will be a vital influence on what Americans come to think about the condition and progress of our schools.

Orientation to This Report

The main purpose of this compendium is to present the extensive range of data collected in NAEP's 1992 Mathematics Assessment, as well as comparable data from the 1990 assessment.

Chapters One and Two present the data in the context of the NAGB achievement levels, showing what students should be able to do at each of three levels: Basic, Proficient, and Advanced.

Chapters Three and Four present the data in the context of the five content areas underlying the assessment framework: numbers and operations; measurement; geometry; data analysis, statistics, and probability; and algebra and functions. Results for a sixth content area, estimation, come from a special paced-audiotape portion of the assessment.

Chapter Five presents examples of the regular and extended constructed-response questions used in the 1992 assessment. As NAEP continues to grow, the constructed-response questions assume an increasingly important role in the assessment. In fact, 1992 marked the first year NAEP used extended constructed responses in the assessment.

Chapters Six through Thirteen all present data related to the background questionnaires presented to students, teachers, and school administrators. In particular, Chapter Six deals with students' perceptions and attitudes towards mathematics; Chapter Seven examines students' course work in mathematics; Chapters Eight and Nine present mathematics instructional emphases and methods, as perceived by both the students and teachers; Chapter Ten looks at the resources, such as calculators and computers, available to students; Chapter Eleven contains teachers' reports on their professional development; Chapter Twelve presents students' attitudes towards the assessment itself; and Chapter

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[5] *Assessing Student Achievement in the States.* The First Report of the National Academy of Education Panel on the Evaluation of the NAEP Trial State Assessment: 1990 Trial State Assessment. National Academy of Education, Stanford, CA: 1992.

Thirteen examines characteristics of students' home life which may affect their academic performance.

Appendix A explains the anchor levels in depth, presents examples of questions, and includes the results for each level at each grade. Appendix B describes the participation rates for the Trial State Assessments. Appendix C presents co-statistics on state contextual background factors from sources external to NAEP, and Appendix D provides further detail about the assessment procedures. Finally, Appendix E contains standard deviations and percentiles for national demographic subpopulations.

CHAPTER ONE

Overall Mathematics Achievement for the Nation and the States

Overview

Chapter One contains the average overall mathematics performance results for both the national assessments at grades 4, 8, and 12 and the Trial State Assessments at grades 4 and 8. Regional results are also found in Chapter One. For the nation, regions, and the jurisdictions that participated in the grade 8 assessments in 1990, trend data are available.

The results also are presented for achievement levels describing what students *should* know and be able to do on the NAEP assessments. The National Assessment Governing Board (NAGB) adopted three achievement levels, each of which is fully described in Chapter One. The proficient level defines solid grade-level performance that demonstrates competency in challenging subject matter. The basic level for each grade denotes partial mastery of fundamental knowledge and skills. The advanced level signifies superior performance.

Chapter One also contains percentiles for the nation and jurisdictions participating in the Trial State Assessments. State comparisons in average proficiency and percentiles are depicted graphically. These figures are based on methods that take the confidence intervals or degree of sampling error associated with the estimates of average proficiency into account, as well as the estimates of average proficiency themselves. As such, they provide the appropriate basis for making comparisons across states.

FIGURE 1.1 Description of Mathematics Achievement Levels for Basic, Proficient, and Advanced Fourth Graders

The five NAEP content areas are (1) numbers and operations, (2) measurement, (3) geometry, (4) data analysis, statistics, and probability, and (5) algebra and functions. At the fourth-grade level, algebra and functions are treated in informal and exploratory ways, often through the study of patterns. Skills are cumulative across levels -- from Basic to Proficient to Advanced.

Basic 211	**Fourth-grade students performing at the basic level should show some evidence of understanding the mathematical concepts and procedures in the five NAEP content areas.**

Fourth graders performing at the basic level should be able to estimate and use basic facts to perform simple computations with whole numbers; show some understanding of fractions and decimals; and solve some simple real-world problems in all NAEP content areas. Students at this level should be able to use -- though not always accurately -- four function calculators, rulers, and geometric shapes. Their written responses are often minimal and presented without supporting information.

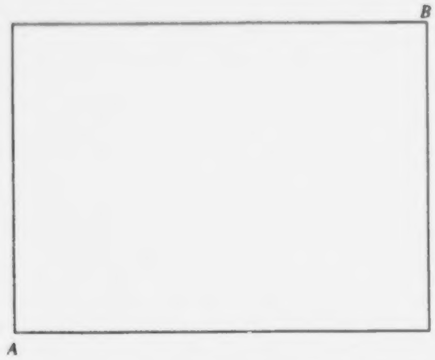
Proficient 248	**Fourth-grade students performing at the proficient level should consistently apply integrated procedural knowledge and conceptual understanding to problem solving in the five NAEP content areas.**

Fourth graders performing at the proficient level should be able to use whole numbers to estimate, compute, and determine whether results are reasonable. They should have a conceptual understanding of fractions and decimals; be able to solve real-world problems in all NAEP content areas; and use four-function calculators, rulers, and geometric shapes appropriately. Students performing at the proficient level should employ problem-solving strategies such as identifying and using appropriate information. Their written solutions should be organized and presented both with supporting information and explanations of how they were achieved.

Advanced 280	**Fourth-grade students performing at the advanced level should apply integrated procedural knowledge and conceptual understanding to complex and nonroutine real-world problem solving in the five NAEP content areas.**

Fourth graders performing at the advanced level should be able to solve complex and nonroutine real-world problems in all NAEP content areas. They should display mastery in the use of four-function calculators, rulers, and geometric shapes. These students are expected to draw logical conclusions and justify answers and solution processes by explaining why, as well as how, they were achieved. They should go beyond the obvious in their interpretations and be able to communicate their thoughts clearly and concisely.

Grade 4 Basic: Example 1



Overall Percent Correct*
Grade 4: 52 (1.5)

Conditional-Basic
Grade 4: 64%

Use your centimeter ruler to make the following measurements to the nearest centimeter.

What is the length in centimeters of one of the longer sides of the rectangle?

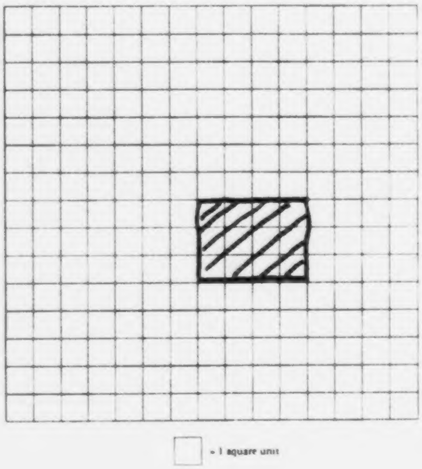
Answer: 8 centimeters

Grade 4 Basic: Example 2

On the grid below, draw a rectangle with an area of 12 square units.

Overall Percent Correct*
Grade 4: 42 (1.4)

Conditional-Basic
Grade 4: 49%



(One possible response)

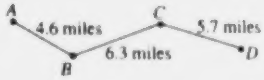
Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 4 Proficient: Example 1

Overall Percent Correct*
Grade 4: 25 (1.6)

Conditional-Proficient
Grade 4: 54%



Carol wanted to estimate the distance from *A* to *D* along the path shown on the map above. She correctly rounded each of the given distances to the nearest mile and then added them. Which of the following sums could be hers?

A 4 + 6 + 5 = 15

B 5 + 6 + 5 = 16

[✓ **C**] 5 + 6 + 6 = 17

D 5 + 7 + 6 = 18

Grade 4 Proficient: Example 2

Overall Percent Correct*
Grade 4: 36 (1.5)

Conditional-Proficient
Grade 4: 60%

By how much would 217 be increased if the digit 1 were replaced by a digit 5 ?

A 4

[✓ **B**] 40

C 44

D 400

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 4 Proficient: Example 3

Overall Percent Correct*
Grade 4: 42 (1.2)

Conditional-Proficient
Grade 4: 74%

Column *A*	Column *B*
12 →	3
16 →	4
24 →	6
40 →	10

What is a rule used in the table to get the numbers in column *B* from the numbers in column *A* ?

[✓ **A**] Divide the number in column *A* by 4.

B Multiply the number in column *A* by 4.

C Subtract 9 from the number in column *A*.

D Add 9 to the number in column *A*.

Did you use the calculator on this question?

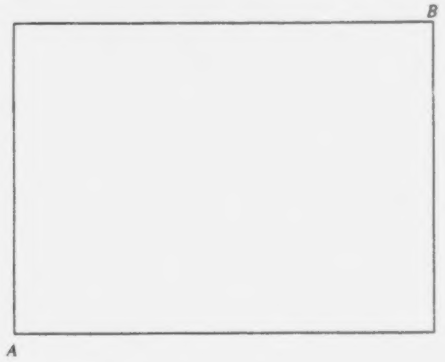
[✓ Yes] No

Grade 4 Proficient: Example 4

(size reduced from original)

Overall Percent Correct*
Grade 4: 60 (1.2)

Conditional-Proficient
Grade 4: 92%



Use your centimeter ruler to make the following measurements to the nearest centimeter.

What is the length in centimeters of the diagonal from *A* to *B* ?

Answer: 10 Centimeters

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 4 Proficient: Example 5

Overall Percent Correct*
Grade 4: 20 (0.9)

Conditional-Proficient
Grade 4: 48%

Lynn had only quarters, dimes, and nickels to buy her lunch. She spent all of the money and received no change. Could she have spent $1.98 ?

Yes [✓ No]

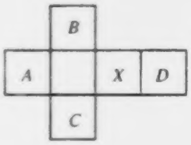
Give a reason for your answer.

With the coins she had,
she could have only had
$1.95 or $2.00.

Grade 4 Advanced: Example 1

Overall Percent Correct*
Grade 4: 22 (1.4)

Conditional-Advanced
Grade 4: 90%



The squares in the figure above represent the faces of a cube which has been cut along some edges and flattened. When the original cube was resting on face *X*, which face was on top?

[✓ A] *A*

B *B*

C *C*

D *D*

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 4 Advanced: Example 2

Overall Percent Correct*
Grade 4: 48 (1.2)

Conditional-Advanced
Grade 4: 95%

If □ represents the number of newspapers that Lee delivers each day, which of the following represents the total number of newspapers that Lee delivers in 5 days?

A 5 + □

[✓ **B**] 5 × □

C □ − 5

D (□ + □) × 5

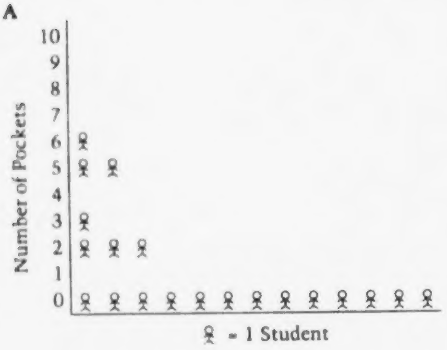
Grade 4 Advanced: Example 3

Overall Percent Satisfactory or Better*
Grade 4:10 (0.9)

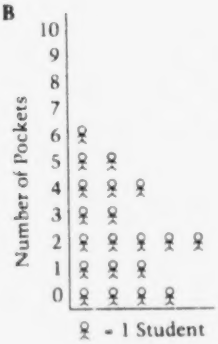
Conditional-Advanced
Grade 4: 59%

There are 20 students in Mr. Pang's class. On Tuesday most of the students in the class said they had pockets in the clothes they were wearing.

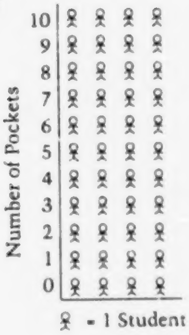
A



B



C



Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 4 Advanced: Example 3 (continued)

Which of the graphs most likely shows the number of pockets that each child had? B

Explain why you chose that graph.

Because it shows 20 students and most of the students have pockets.

Explain why you did not choose the other graphs.

It cannot be A because in A most of the students do not have pockets.

It cannot be C because in C there are more than 20 students shown.

Note: Example of an extended response.

FIGURE 1.2 Description of Mathematics Achievement Levels for Basic, Advanced, and Proficient Eighth Graders

The five NAEP content areas are (1) numbers and operations, (2) measurement, (3) geometry, (4) data analysis, statistics, and probability, and (5) algebra and functions. Skills are cumulative across levels -- from Basic to Proficient to Advanced.

Basic 256	**Eighth-grade students performing at the basic level should exhibit evidence of conceptual and procedural understanding in the five NAEP content areas. This level of performance signifies an understanding of arithmetic operations -- including estimation -- on whole numbers, decimals, fractions, and percents.**

Eighth graders performing at the basic level should complete problems correctly with the help of structural prompts such as diagrams, charts, and graphs. They should be able to solve problems in all NAEP content areas through the appropriate selection and use of strategies and technological tools -- including calculators, computers, and geometric shapes. Students at this level also should be able to use fundamental algebraic and informal geometric concepts in problem solving.

As they approach the proficient level, students at the basic level should be able to determine which of available data are necessary and sufficient for correct solutions and use them in problem solving. However, these 8th graders show limited skill in communicating mathematically.

Proficient 294	**Eighth-grade students performing at the proficient level should apply mathematical concepts and procedures consistently to complex problems in the five NAEP content areas.**

Eighth graders performing at the proficient level should be able to conjecture, defend their ideas, and give supporting examples. They should understand the connections between fractions, percents, decimals, and other mathematical topics such as algebra and functions. Students at this level are expected to have a thorough understanding of basic level arithmetic operations -- an understanding sufficient for problem solving in practical situations.

Quantity and spatial relationships in problem solving and reasoning should be familiar to them, and they should be able to convey underlying reasoning skills beyond the level of arithmetic. They should be able to compare and contrast mathematical ideas and generate their own examples. These students should make inferences from data and graphs; apply properties of informal geometry; and accurately use the tools of technology. Students at this level should understand the process of gathering and organizing data and be able to calculate, evaluate, and communicate results within the domain of statistics and probability.

Advanced 331	**Eighth-grade students performing at the advanced level should be able to reach beyond the recognition, identification, and application of mathematical rules in order to generalize and synthesize concepts and principles in the five NAEP content areas.**

Eighth graders performing at the advanced level should be able to probe examples and counterexamples in order to shape generalizations from which they can develop models. Eighth graders performing at the advanced level should use number sense and geometric awareness to consider the reasonableness of an answer. They are expected to use abstract thinking to create unique problem-solving techniques and explain the reasoning processes underlying their conclusions.

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Grade 8 Basic: Example 1

Jill needs to earn $45.00 for a class trip. She earns $2.00 each day on Mondays, Tuesdays, and Wednesdays, and $3.00 each day on Thursdays, Fridays, and Saturdays. She does not work on Sundays. How many weeks will it take her to earn $45.00 ?

Answer: 3 weeks

Overall Percent Correct*
Grade 8: 59 (1.4)

Conditional-Basic
Grade 8: 64%

Grade 8 Basic: Example 2

Which of the following is both a multiple of 3 and a multiple of 7 ?

A 7,007

B 8,192

[✓ C] 21,567

D 22,287

E 40,040

Did you use the calculator on this question?

Yes No

Overall Percent Correct*
Grade 8: 77 (1.2)

Conditional-Basic
Grade 8: 83%

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

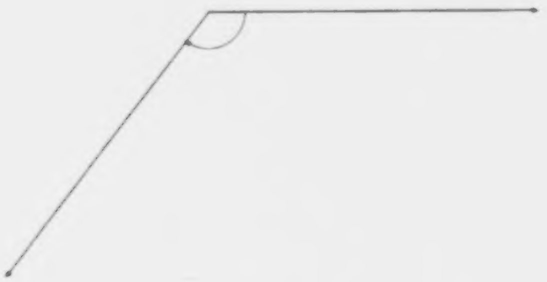
Grade 8 Basic: Example 3

Overall Percent Correct[*]

Grade 8: 35 (1.9)

Conditional-Basic

Grade 8: 37%



Use your protractor to find the degree measure of the angle shown above

Answer: 128°

Grade 8 Proficient: Example 1

Overall Percent Correct[*]

Grade 8: 48 (1.4)

Conditional-Proficient

Grade 8: 73%

Tracy said, "I can multiply 6 by another number and get an answer that is smaller than 6."

Pat said, "No, you can't. Multiplying 6 by another number always makes the answer 6 or larger."

Who is correct? Give a reason for your answer.

Tracy — If you multiply 6 by any number less than 1, the answer will always be less than 6.

Did you use the calculator on this question?

Yes No

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

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[*] The standard errors of the estimated percentages appear in parentheses.

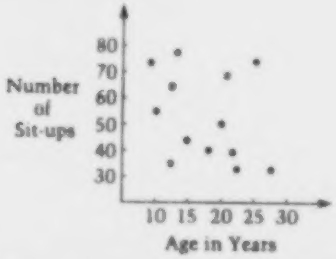
Grade 8 Proficient: Example 2

Overall Percent Correct*

Grade 8: 23 (1.2)

Conditional Proficient

Grade 8: 36%



In the graph above, each dot shows the number of sit-ups and the corresponding age for one of 13 people. According to this graph, what is the median number of sit-ups for these 13 people?

A 15

B 20

C 45

[✓ D 50]

E 55

Did you use the calculator on this question?

Yes No

Grade 8 Proficient: Example 3

Overall Percent Correct*

Grade 8: 62 (1.5)

Conditional-Proficient

Grade 8: 90%

Harriet, Jim, Roberto, Maria, and Willie are in the same eighth-grade class. One of them is this year's class president. Based on the following information, who is the class president?

1. The class president was last year's class vice president and lives on Vine Street.
2. Willie is this year's class vice president.
3. Jim and Maria live on Cypress Street.
4. Roberto was not last year's class vice president.

[✓ A Harriet]

B Jim

C Roberto

D Maria

E Willie

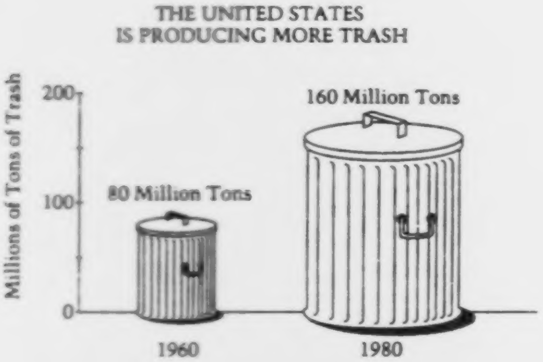
Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 8 Advanced: Example 1

Overall Percent Correct*
Grade 8: 8 (0.8)

Conditional-Advanced
Grade 8: 42



The pictograph shown above is misleading. Explain why.

Answer Both the width and the height have been doubled.

Grade 8 Advanced: Example 2

Overall Percent Correct*
Grade 8: 25 (1.3)

Conditional-Advanced
Grade 8: 79%

A	*B*
2	5
4	9
6	13
8	17
14	?

If the pattern shown in the table were continued, what number would appear in the box at the bottom of column *B* next to 14 ?

A 19

B 21

C 23

D 25

[✓ E] 29

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

FIGURE 1.3 Description of Mathematics Achievement Levels for Basic, Advanced, and Proficient Twelfth Graders

The five NAEP content areas are (1) numbers and operations, (2) measurement, (3) geometry, (4) data analysis, statistics, and probability, and (5) algebra and functions. Skills are cumulative across levels -- from Basic to Proficient to Advanced.

Basic 287	**Twelfth-grade students performing at the basic level should demonstrate procedural and conceptual knowledge in solving problems in the five NAEP content areas.**

Twelfth grade students performing at the basic level should be able to use estimation to verify solutions and determine the reasonableness of results as applied to real-world problems. They are expected to use algebraic and geometric reasoning strategies to solve problems. Twelfth graders performing at the basic level should recognize relationships presented in verbal, algebraic, tabular, and graphical forms; and demonstrate knowledge of geometric relationships and corresponding measurement skills.

They should be able to apply statistical reasoning in the organization and display of data and in reading tables and graphs. They also should be able to generalize from patterns and examples in the areas of algebra, geometry, and statistics. At this level, they should use correct mathematical language and symbols to communicate mathematical relationships and reasoning processes; and use calculators appropriately to solve problems.

Proficient 334	**Twelfth-grade students performing at the proficient level should consistently integrate mathematical concepts and procedures to the solutions of more complex problems in the five NAEP content areas.**

Twelfth graders performing at the proficient level should demonstrate an understanding of algebraic, statistical, and geometric and spatial reasoning. They should be able to perform algebraic operations involving polynomials; justify geometric relationships; and judge and defend the reasonableness of answers as applied to real-world situations. These students should be able to analyze and interpret data in tabular and graphical form; understand and use elements of the function concept in symbolic, graphical, and tabular form; and make conjectures, defend ideas, and give supporting examples.

Advanced 366	**Twelfth-grade students performing at the advanced level should consistently demonstrate the integration of procedural and conceptual knowledge and the synthesis of ideas in the five NAEP content areas.**

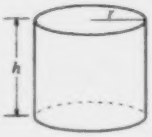
Twelfth-grade students performing at the advanced level should understand the function concept; and be able to compare and apply the numeric, algebraic, and graphical properties of functions. They should apply their knowledge of algebra, geometry, and statistics to solve problems in more advanced areas of continuous and discrete mathematics.

They should be able to formulate generalizations and create models through probing examples and counterexamples. They should be able to communicate their mathematical reasoning through the clear, concise, and correct use of mathematical symbolism and logical thinking.

Grade 12 Basic: Example 1

Overall Percent Correct*
Grade 12: 68 (1.7)

Conditional-Basic
Grade 12: 83%



The volume V of a right circular cylinder like the one in the figure above is given by the formula $V = \pi r^2 h$. In terms of π, what is the volume of a cylinder with radius $r = 4$ and height $h = 10$?

A 18π

B 26π

C 80π

[✓ **D**] 160π

E $1{,}600\pi$

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

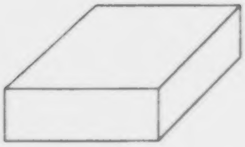
*The standard errors of the estimated percentages appear in parentheses.

Grade 12 Basic: Example 2

Overall Percent Correct*
All Four Parts
Grade 12: 42 (1.3)

Each Part
(a) 90 (0.8)
(b) 68 (1.2)
(c) 74 (1.1)
(d) 56 (1.3)

Conditional-Basic
Grade 12: Each Part
(a) 93%
(b) 76%
(c) 81%
(d) 64%

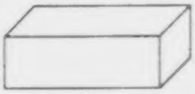


The piece of fudge shown above is in the shape of a rectangular solid. If a knife makes one straight cut through the fudge, which of the following can be the piece cut off?

Fill in one oval to indicate YES or NO for each shape.

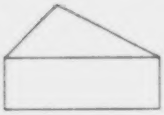
Yes No

(a)



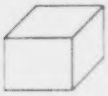
[✓ A] B

(b)



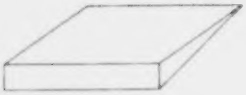
[✓ A] B

(c)



A [✓ B]

(d)



[✓ A] B

Did you use the calculator on this question?

Yes [✓ No]

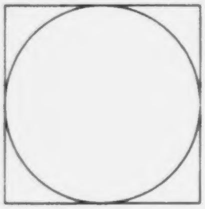
Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 12 Basic: Example 3

Overall Percent Correct*
Grade 12: 70 (1.5)

Conditional-Basic
Grade 12: 79%



The length of a side of the square above is 6. What is the length of the radius of the circle?

A 2

[✓ **B**] 3

C 4

D 6

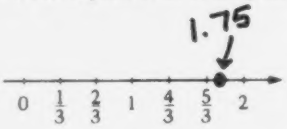
E 8

Grade 12 Basic: Example 4

Overall Percent Correct*
Grade 12: 50 (1.7)

Conditional-Basic
Grade 12: 56%

On the number line below, place a dot at the point that could represent 1.75.



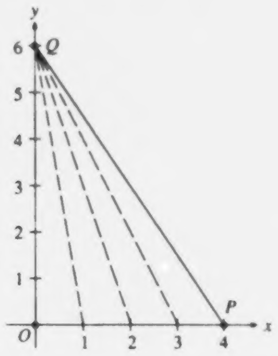
Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 12 Proficient: Example 1

Overall Percent Correct[*]
Grade 12: 29 (1.5)

Conditional-Proficient
Grade 12: 89%



In the figure above, point Q is fixed and point P starts at 4 and moves left along the x-axis. As P moves left along the x-axis toward O, the area of $\triangle POQ$ changes.

Use the information given to complete the table below to show how the area of $\triangle POQ$ changes as P goes from the position shown to the origin O.

x - coordinate of P	Area of ΔPOQ
4	12
3	9
2	6
1	3
0	0

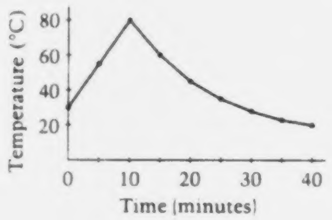
Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

[*] The standard errors of the estimated percentages appear in parentheses.

Grade 12 Proficient: Example 2

Overall Percent Correct*
Grade 12: 74 (1.4)

Conditional-Proficient
Grade 12: 97%



The graph above best conveys information about which of the following situations over a 40-minute period of time?

A Oven temperature while a cake is being baked

[✓ B] Temperature of water that is heated on a stove, then removed and allowed to cool

C Ocean temperature in February along the coast of Maine

D Body temperature of a person with a cold

E Temperature on a July day in Chicago

Did you use the calculator on this question?

Yes [✓ No]

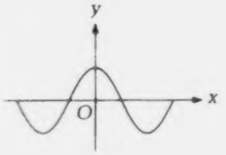
Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 12 Advanced: Example 1

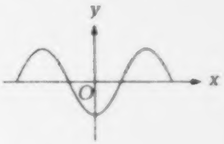
Overall Percent Correct*
Grade 12: 20 (1.3)

Conditional-Advanced
Grade 12: 92%

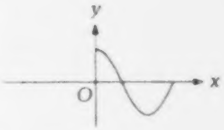


The figure above shows the graph of $y = f(x)$. Which of the following could be the graph of $y = |f(x)|$?

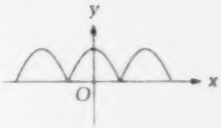
A



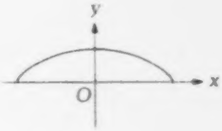
B



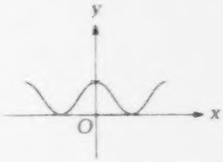
[✓ C]



D



E



Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Grade 12 Advanced: Example 2

Overall Percent Correct*
Grade 12: 30 (1.6)

Conditional-Advanced
Grade 12: 84%

Suppose $4r = 3s = 10t$, where r, s, and t are positive integers. What is the sum of the least values of r, s, and t for which this equality is true?

A 7

B 17

[✓ **C**] 41

D 82

E 120

Did you use the calculator on this question?

Yes [✓ No]

Note: Conditional percentages show, of the students who performed in the interval between that achievement level and the next highest achievement level, what percentage of those students were successful in answering the question.

*The standard errors of the estimated percentages appear in parentheses.

Overall Average Mathematics Proficiency and Achievement Level Results for the Nation

TABLE 1.1 National Overall Average Mathematics Proficiency and Achievement Levels, Grades 4, 8, and 12

Grades	Assessment Years	Average Proficiency	Percentage of Students At or Above			
			Advanced	Proficient	Basic	Percentage Below Basic
4	1992	218 (0.7)>	2 (0.3)	18 (1.0)>	61 (1.0)>	39 (1.0)<
	1990	213 (0.9)	1 (0.4)	13 (1.1)	54 (1.4)	46 (1.4)
8	1992	268 (0.9)>	4 (0.4)	25 (1.0)>	63 (1.1)>	37 (1.1)<
	1990	263 (1.3)	2 (0.4)	20 (1.1)	58 (1.4)	42 (1.4)
12	1992	299 (0.9)>	2 (0.3)	16 (0.9)	64 (1.2)>	36 (1.2)<
	1990	294 (1.1)	2 (0.3)	13 (1.0)	59 (1.5)	41 (1.5)

>The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level.
< The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level.
The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

TABLE 1.2 Mathematics Proficiency (Scale-Score Cutpoint) Corresponding to Each Achievement Level, Grades 4, 8, and 12

Grades	Advanced	Proficient	Basic
4	280	248	211
8	331	294	256
12	366	334	287

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TABLE 1.3 Average Mathematics Proficiency and Achievement Levels by Region, Grades 4, 8, and 12

	Assessment Years	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Percentage Below Basic
				Advanced	Proficient	Basic	
Grade 4							
Northeast	**1992**	21 (0.9)	223 (2.0)>	3 (0.9)	24 (2.6)	65 (2.8)	35 (2.8)
	1990	22 (1.0)	215 (2.9)	2 (0.9)	15 (3.3)	56 (4.1)	44 (4.1)
Southeast	**1992**	24 (0.9)	210 (1.6)>	1 (0.4)	12 (1.3)	50 (2.2)	50 (2.2)
	1990	25 (1.1)	205 (2.1)	1 (0.4)	9 (1.6)	43 (3.1)	57 (3.1)
Central	**1992**	27 (0.5)	223 (1.9)>	2 (0.5)	21 (1.8)>	68 (2.6)	32 (2.6)
	1990	25 (0.8)	216 (1.7)	2 (1.0)	14 (1.5)	59 (2.8)	41 (2.8)
West	**1992**	28 (0.7)	218 (1.5)	2 (0.7)	17 (2.1)	60 (2.1)	40 (2.1)
	1990	28 (0.8)	216 (2.4)	2 (0.7)	15 (2.3)	57 (3.2)	43 (3.2)
Grade 8							
Northeast	**1992**	22 (0.8)	269 (2.7)	5 (1.1)	27 (2.8)	62 (3.4)	38 (3.4)
	1990	20 (0.9)	270 (2.8)	3 (0.8)	25 (2.6)	66 (3.4)	34 (3.4)
Southeast	**1992**	25 (0.7)	260 (1.4)	2 (0.5)	19 (1.3)	55 (1.5)	45 (1.5)
	1990	25 (1.1)	255 (2.5)	2 (0.5)	15 (2.0)	50 (2.9)	50 (2.9)
Central	**1992**	25 (0.6)	274 (1.9)>	3 (0.6)	30 (2.6)>	71 (2.4)	29 (2.4)
	1990	24 (0.8)	266 (2.3)	2 (0.6)	21 (2.0)	63 (2.3)	37 (2.3)
West	**1992**	28 (0.7)	268 (2.0)>	4 (1.1)	25 (1.9)	63 (2.5)	37 (2.5)
	1990	30 (1.0)	261 (2.6)	3 (0.7)	18 (2.3)	57 (2.7)	43 (2.7)
Grade 12							
Northeast	**1992**	24 (0.6)	302 (1.5)	3 (0.7)	19 (1.6)	67 (2.0)	33 (2.0)
	1990	24 (1.2)	300 (2.3)	3 (0.9)	18 (2.0)	65 (2.9)	35 (2.9)
Southeast	**1992**	24 (0.6)	291 (1.4)>	1 (0.3)	11 (1.2)>	55 (2.1)	45 (2.1)
	1990	20 (1.1)	284 (2.2)	1 (0.4)	6 (1.0)	48 (3.8)	52 (3.8)
Central	**1992**	25 (0.6)	303 (1.8)	2 (0.4)	18 (1.6)	70 (2.6)	30 (2.6)
	1990	27 (0.8)	297 (2.6)	2 (0.6)	14 (2.2)	64 (3.6)	36 (3.6)
West	**1992**	27 (0.9)	298 (1.7)	2 (0.6)	15 (2.0)	64 (1.8)	36 (1.8)
	1990	29 (1.2)	294 (2.6)	2 (0.9)	13 (2.4)	58 (3.4)	42 (3.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 1.4 | Overall Average Mathematics Proficiency and Achievement Levels

PUBLIC SCHOOLS	Grade 4 - 1992				
	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	217 (0.8)	2 (0.3)	18 (1.1)	59 (1.1)	41 (1.1)
Northeast	223 (2.1)	3 (0.8)	23 (2.9)	64 (3.0)	36 (3.0)
Southeast	209 (1.9)	1 (0.4)	11 (1.4)	48 (2.5)	52 (2.5)
Central	222 (2.2)	2 (0.6)	20 (2.1)	66 (3.2)	34 (3.2)
West	217 (1.6)	2 (0.7)	17 (2.1)	59 (2.2)	41 (2.2)
STATES					
Alabama	207 (1.6)	1 (0.2)	10 (1.3)	45 (2.2)	55 (2.2)
Arizona	214 (1.1)	1 (0.3)	13 (0.9)	55 (1.7)	45 (1.7)
Arkansas	209 (0.9)	1 (0.2)	10 (0.8)	49 (1.3)	51 (1.3)
California	207 (1.6)	2 (0.5)	13 (1.2)	48 (2.0)	52 (2.0)
Colorado	220 (1.0)	2 (0.4)	18 (1.1)	62 (1.4)	38 (1.4)
Connecticut	226 (1.2)	4 (0.6)	25 (1.4)	69 (1.5)	31 (1.5)
Delaware	217 (0.8)	2 (0.4)	17 (0.8)	56 (1.0)	44 (1.0)
Dist. Columbia	191 (0.5)	1 (0.2)	6 (0.3)	25 (1.0)	75 (1.0)
Florida	212 (1.5)	2 (0.4)	14 (1.4)	53 (2.0)	47 (2.0)
Georgia	214 (1.3)	2 (0.4)	16 (1.2)	55 (1.7)	45 (1.7)
Hawaii	213 (1.3)	2 (0.4)	15 (1.0)	54 (1.8)	46 (1.8)
Idaho	220 (1.0)	1 (0.3)	16 (1.1)	64 (1.7)	36 (1.7)
Indiana	220 (1.1)	2 (0.3)	16 (1.1)	62 (1.6)	38 (1.6)
Iowa	229 (1.1)	3 (0.5)	27 (1.3)	74 (1.4)	26 (1.4)
Kentucky	214 (1.0)	1 (0.5)	13 (1.1)	53 (1.5)	47 (1.5)
Louisiana	204 (1.4)	1 (0.2)	8 (0.8)	41 (2.0)	59 (2.0)
Maine	231 (1.0)	3 (0.6)	28 (1.5)	76 (1.3)	24 (1.3)
Maryland	216 (1.3)	3 (0.4)	19 (1.2)	57 (1.6)	43 (1.6)
Massachusetts	226 (1.2)	3 (0.5)	24 (1.5)	70 (1.6)	30 (1.6)
Michigan	219 (1.8)	2 (0.5)	19 (1.7)	62 (2.2)	38 (2.2)
Minnesota	227 (0.8)	3 (0.5)	27 (1.2)	72 (1.4)	28 (1.4)
Mississippi	200 (1.1)	0 (0.1)	7 (0.7)	37 (1.3)	63 (1.3)
Missouri	221 (1.2)	2 (0.3)	19 (1.3)	64 (1.6)	36 (1.6)
Nebraska	224 (1.3)	3 (0.5)	23 (1.7)	68 (1.8)	32 (1.8)
New Hampshire	229 (1.2)	3 (0.6)	26 (1.7)	74 (1.6)	26 (1.6)
New Jersey	226 (1.5)	3 (0.7)	25 (1.6)	70 (2.1)	30 (2.1)
New Mexico	212 (1.5)	1 (0.4)	11 (1.3)	52 (1.9)	48 (1.9)
New York	217 (1.3)	2 (0.3)	17 (1.3)	59 (1.9)	41 (1.9)
North Carolina	211 (1.1)	2 (0.4)	13 (0.9)	52 (1.6)	48 (1.6)
North Dakota	228 (0.8)	2 (0.3)	23 (1.1)	74 (1.2)	26 (1.2)
Ohio	217 (1.2)	2 (0.5)	17 (1.1)	59 (1.7)	41 (1.7)
Oklahoma	219 (1.0)	1 (0.4)	14 (1.1)	62 (1.6)	38 (1.6)
Pennsylvania	223 (1.4)	3 (0.5)	23 (1.5)	66 (1.9)	34 (1.9)
Rhode Island	214 (1.6)	2 (0.4)	14 (1.2)	56 (2.2)	44 (2.2)
South Carolina	212 (1.1)	1 (0.3)	13 (1.1)	49 (1.5)	51 (1.5)
Tennessee	209 (1.4)	1 (0.2)	10 (1.0)	49 (2.1)	51 (2.1)
Texas	217 (1.3)	2 (0.5)	16 (1.3)	58 (1.7)	42 (1.7)
Utah	223 (1.0)	2 (0.3)	20 (1.1)	67 (1.6)	33 (1.6)
Virginia	220 (1.3)	3 (0.7)	19 (1.6)	60 (1.4)	40 (1.4)
West Virginia	214 (1.1)	1 (0.3)	13 (1.0)	54 (1.6)	46 (1.6)
Wisconsin	228 (1.1)	3 (0.5)	25 (1.4)	72 (1.3)	28 (1.3)
Wyoming	224 (1.0)	2 (0.3)	19 (1.2)	70 (1.4)	30 (1.4)
TERRITORY					
Guam	191 (0.8)	0 (0.1)	5 (0.5)	28 (1.2)	72 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent.

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TABLE 1.4 | Overall Average Mathematics Proficiency and Achievement Levels (continued)

	Grade 8 - 1992					Grade 8 - 1990				
PUBLIC SCHOOLS	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	266 (1.0)	3 (0.5)	23 (1.1)	61 (1.2)	39 (1.2)	262 (1.4)	2 (0.4)	19 (1.2)	57 (1.4)	43 (1.4)
Northeast	267 (3.0)	5 (1.4)	25 (3.0)	59 (3.9)	41 (3.9)	270 (3.3)	3 (1.0)	26 (3.1)	65 (3.7)	35 (3.7)
Southeast	258 (1.2)	1 (0.4)	16 (1.0)	53 (1.6)	47 (1.6)	254 (2.6)	2 (0.6)	15 (2.2)	48 (3.0)	52 (3.0)
Central	273 (2.2)	3 (0.7)	28 (3.0)	70 (2.8)	30 (2.8)	265 (2.3)	2 (0.6)	20 (2.1)	61 (2.5)	39 (2.5)
West	267 (2.1)	4 (1.1)	24 (2.1)	62 (2.7)	38 (2.7)	261 (2.6)	3 (0.7)	19 (2.5)	57 (2.6)	43 (2.6)
STATES										
Alabama	251 (1.7)	1 (0.3)	12 (1.1)	44 (2.0)	56 (2.0)	253 (1.1)	1 (0.2)	12 (0.8)	47 (1.6)	53 (1.6)
Arizona	265 (1.3) >	2 (0.4)	19 (1.4)	61 (1.8) >	39 (1.8) <	260 (1.3)	1 (0.4)	16 (1.1)	55 (1.8)	45 (1.8)
Arkansas	255 (1.2)	1 (0.3)	13 (1.0)	50 (1.7)	50 (1.7)	256 (0.9)	1 (0.2)	12 (1.0)	51 (1.3)	49 (1.3)
California	260 (1.7)	3 (0.7)	20 (1.4)	55 (2.0)	45 (2.0)	256 (1.3)	2 (0.4)	16 (1.3)	51 (1.6)	49 (1.6)
Colorado	272 (1.1) >	2 (0.5)	26 (1.3) >	69 (1.3) >	31 (1.3) <	267 (0.9)	2 (0.4)	22 (1.0)	64 (1.1)	36 (1.1)
Connecticut	273 (1.1) >	4 (0.6)	30 (1.1) >	69 (1.4)	31 (1.4)	270 (1.0)	4 (0.4)	26 (1.1)	66 (1.3)	34 (1.3)
Delaware	262 (1.0)	3 (0.4)	18 (1.1)	57 (1.2)	43 (1.2)	261 (0.9)	2 (0.5)	19 (0.9)	55 (1.3)	45 (1.3)
Dist. Columbia	234 (0.9) >	1 (0.2)	6 (1.0)	26 (1.3) >	74 (1.3) <	231 (0.9)	1 (0.2)	4 (0.7)	21 (1.0)	79 (1.0)
Florida	259 (1.5)	2 (0.4)	18 (1.3)	55 (1.9)	45 (1.9)	255 (1.3)	2 (0.4)	15 (1.0)	49 (1.4)	51 (1.4)
Georgia	259 (1.2)	1 (0.3)	16 (1.0)	53 (1.5)	47 (1.5)	259 (1.3)	3 (0.5)	17 (1.3)	53 (1.5)	47 (1.5)
Hawaii	257 (0.9) »	2 (0.4)	16 (0.8)	51 (1.2) »	49 (1.2) «	251 (0.8)	2 (0.4)	14 (0.8)	45 (1.0)	55 (1.0)
Idaho	274 (0.8) >	3 (0.4)	27 (1.2)	73 (1.1)	27 (1.1)	271 (0.8)	2 (0.4)	23 (1.4)	70 (1.2)	30 (1.2)
Indiana	269 (1.2)	3 (0.4)	24 (1.3)	66 (1.5)	34 (1.5)	267 (1.1)	3 (0.6)	21 (1.2)	63 (1.6)	37 (1.6)
Iowa	283 (1.0) »	5 (0.7)	37 (1.4) >	81 (1.2) >	19 (1.2) <	278 (1.1)	4 (0.5)	30 (1.5)	76 (1.1)	24 (1.1)
Kentucky	261 (1.1) >	2 (0.4)	17 (1.1)	57 (1.3) >	43 (1.3) <	257 (1.2)	1 (0.2)	14 (0.9)	51 (1.8)	49 (1.8)
Louisiana	249 (1.7)	1 (0.2)	10 (1.2)	42 (2.0)	58 (2.0)	246 (1.2)	1 (0.2)	8 (1.0)	39 (1.7)	61 (1.7)
Maine	278 (1.0)	4 (0.6)	31 (1.9)	77 (1.3)	23 (1.3)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	264 (1.3)	4 (0.6)	24 (1.3)	59 (1.5)	41 (1.5)	261 (1.4)	3 (0.6)	20 (1.2)	56 (1.7)	44 (1.7)
Massachusetts	272 (1.1)	3 (0.5)	28 (1.4)	68 (1.5)	32 (1.5)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	267 (1.4)	3 (0.5)	23 (1.7)	63 (1.6)	37 (1.6)	264 (1.2)	2 (0.4)	20 (1.4)	60 (1.4)	40 (1.4)
Minnesota	282 (1.0) »	6 (0.7) >	37 (1.2) »	79 (1.2) >	21 (1.2) <	275 (0.9)	4 (0.4)	29 (1.2)	74 (1.3)	26 (1.3)
Mississippi	246 (1.2)	0 (0.2)	8 (0.8)	38 (1.5)	62 (1.5)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	270 (1.2)	3 (0.4)	24 (1.3)	68 (1.6)	32 (1.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	277 (1.1)	4 (0.5)	32 (1.9)	75 (1.2)	25 (1.2)	276 (1.0)	4 (0.6)	30 (1.4)	74 (1.1)	26 (1.1)
New Hampshire	278 (1.0) »	3 (0.6)	30 (1.5) >	77 (1.0) >	23 (1.0) <	273 (0.9)	3 (0.5)	25 (1.2)	71 (1.6)	29 (1.6)
New Jersey	271 (1.6)	4 (0.6)	28 (1.4)	67 (1.8)	33 (1.8)	270 (1.1)	4 (0.5)	25 (1.3)	65 (1.6)	35 (1.6)
New Mexico	259 (0.9) >	1 (0.3)	14 (1.0)	54 (1.4)	46 (1.4)	256 (0.7)	1 (0.3)	13 (0.9)	51 (1.3)	49 (1.3)
New York	266 (2.1)	4 (0.6)	24 (1.6) >	62 (2.3)	38 (2.3)	261 (1.4)	3 (0.5)	19 (1.0)	57 (1.7)	44 (1.7)
North Carolina	258 (1.2) »	1 (0.3)	15 (1.0) >	53 (1.5) »	47 (1.5) «	250 (1.1)	1 (0.4)	11 (0.8)	44 (1.4)	56 (1.4)
North Dakota	283 (1.2)	4 (0.6)	36 (1.7)	82 (1.3)	18 (1.3)	281 (1.2)	4 (0.6)	34 (2.0)	81 (1.6)	19 (1.6)
Ohio	267 (1.5)	2 (0.5)	22 (1.4)	64 (2.0)	36 (2.0)	264 (1.0)	2 (0.3)	19 (1.2)	60 (1.4)	40 (1.4)
Oklahoma	267 (1.2) >	2 (0.3)	21 (1.2) >	65 (2.0)	35 (2.0)	263 (1.3)	2 (0.5)	17 (1.3)	59 (1.6)	41 (1.6)
Pennsylvania	271 (1.5)	3 (0.7)	26 (1.5)	67 (1.7)	33 (1.7)	266 (1.6)	2 (0.4)	21 (1.5)	63 (2.0)	37 (2.0)
Rhode Island	265 (0.7) »	2 (0.3)	20 (1.3)	62 (1.2) »	38 (1.2) «	260 (0.6)	2 (0.3)	18 (1.0)	55 (0.9)	45 (0.9)
South Carolina	260 (1.0)	2 (0.5)	18 (1.1)	53 (1.2)	47 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	258 (1.4)	1 (0.4)	15 (1.2)	53 (1.8)	47 (1.8)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	264 (1.3) >	4 (0.6)	21 (1.4) >	58 (1.5) >	42 (1.5) <	258 (1.4)	2 (0.4)	16 (1.0)	52 (1.7)	48 (1.7)
Utah	274 (0.7)	3 (0.5)	27 (1.1)	72 (1.3)	28 (1.3)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	267 (1.2)	3 (0.5)	23 (1.2)	62 (1.6)	38 (1.6)	264 (1.5)	4 (0.8)	21 (1.6)	58 (1.6)	42 (1.6)
West Virginia	258 (1.0)	1 (0.2)	13 (0.9)	53 (1.5)	47 (1.5)	256 (1.0)	1 (0.2)	12 (0.9)	49 (1.2)	51 (1.2)
Wisconsin	277 (1.5)	4 (0.6)	32 (1.4)	76 (1.9)	24 (1.9)	274 (1.3)	4 (0.5)	29 (1.5)	72 (1.7)	28 (1.7)
Wyoming	274 (0.9) >	2 (0.5)	26 (1.0)	73 (1.3)	27 (1.3)	272 (0.7)	2 (0.3)	24 (1.0)	71 (1.3)	29 (1.3)
TERRITORIES										
Guam	234 (1.0) >	1 (0.2)	7 (0.7)	30 (1.4)	70 (1.4)	232 (0.7)	1 (0.2)	5 (0.6)	27 (1.0)	73 (1.0)
Virgin Islands	222 (1.1) >	0 (0.1)	1 (0.3)	13 (1.0)	87 (1.0)	219 (0.9)	0 (0.1)	1 (0.4)	10 (1.1)	90 (1.1)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. (xxx) Did not participate in the 1990 Trial State Assessment.

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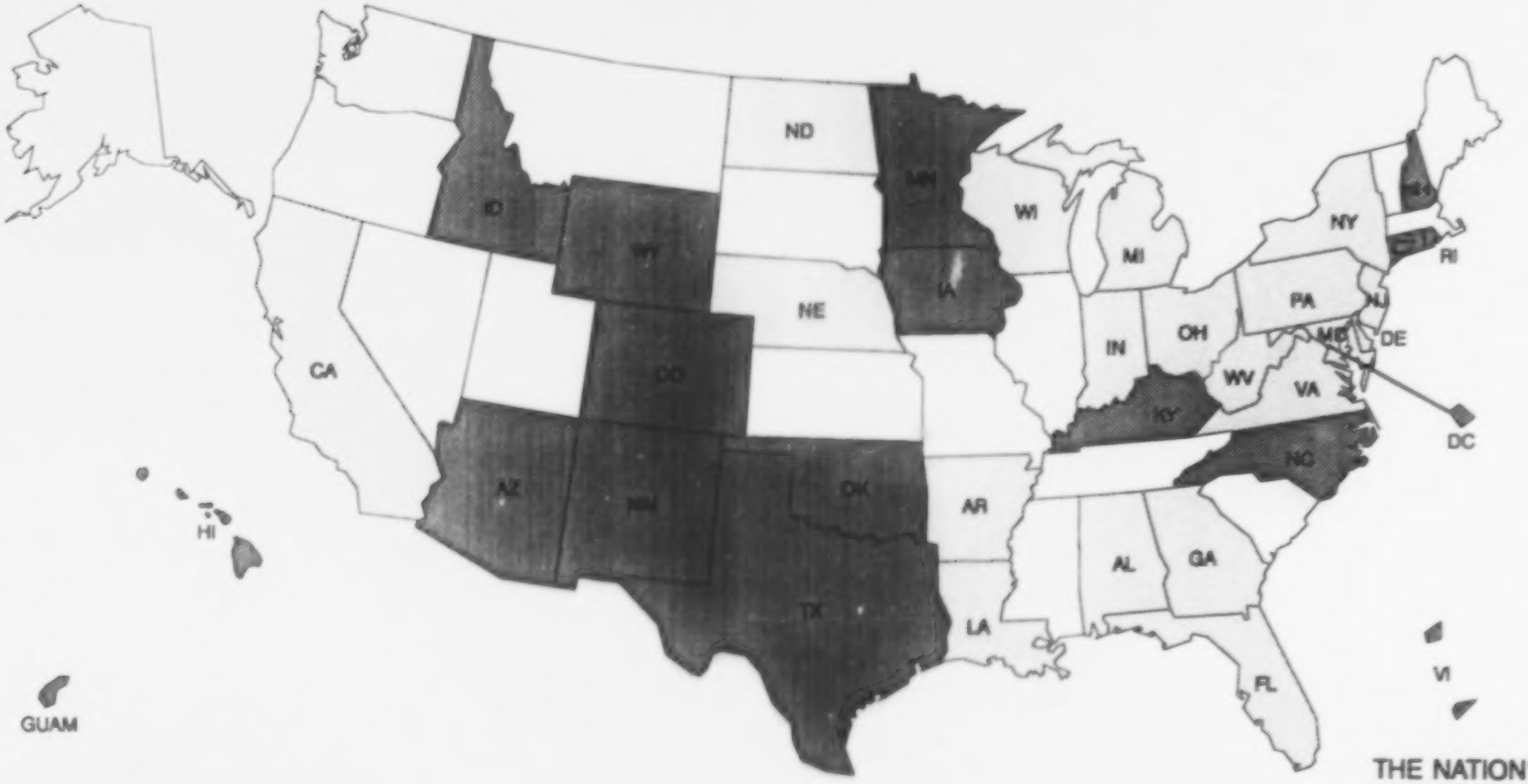
Figure 1.4

The NAEP Trial State Assessment

Comparisons of Overall Mathematics Proficiency at Grade 8

1992 vs. 1990


ND
MN
WI
MI
NY
NH
ID
WY
CT
RI
IA
NE
PA
NJ
MD
DE
IN
OH
CA
CO
WV
VA
KY
DC
NC
AZ
NM
OK
AR
HI
AL
GA
TX
LA
FL
VI
GUAM

▨ State was significantly higher in 1992 than 1990

☐ No statistically significant difference from 1990 to 1992

☐ State did not participate in 1990 or 1992

NOTE: No state was significantly lower in 1992 than 1990

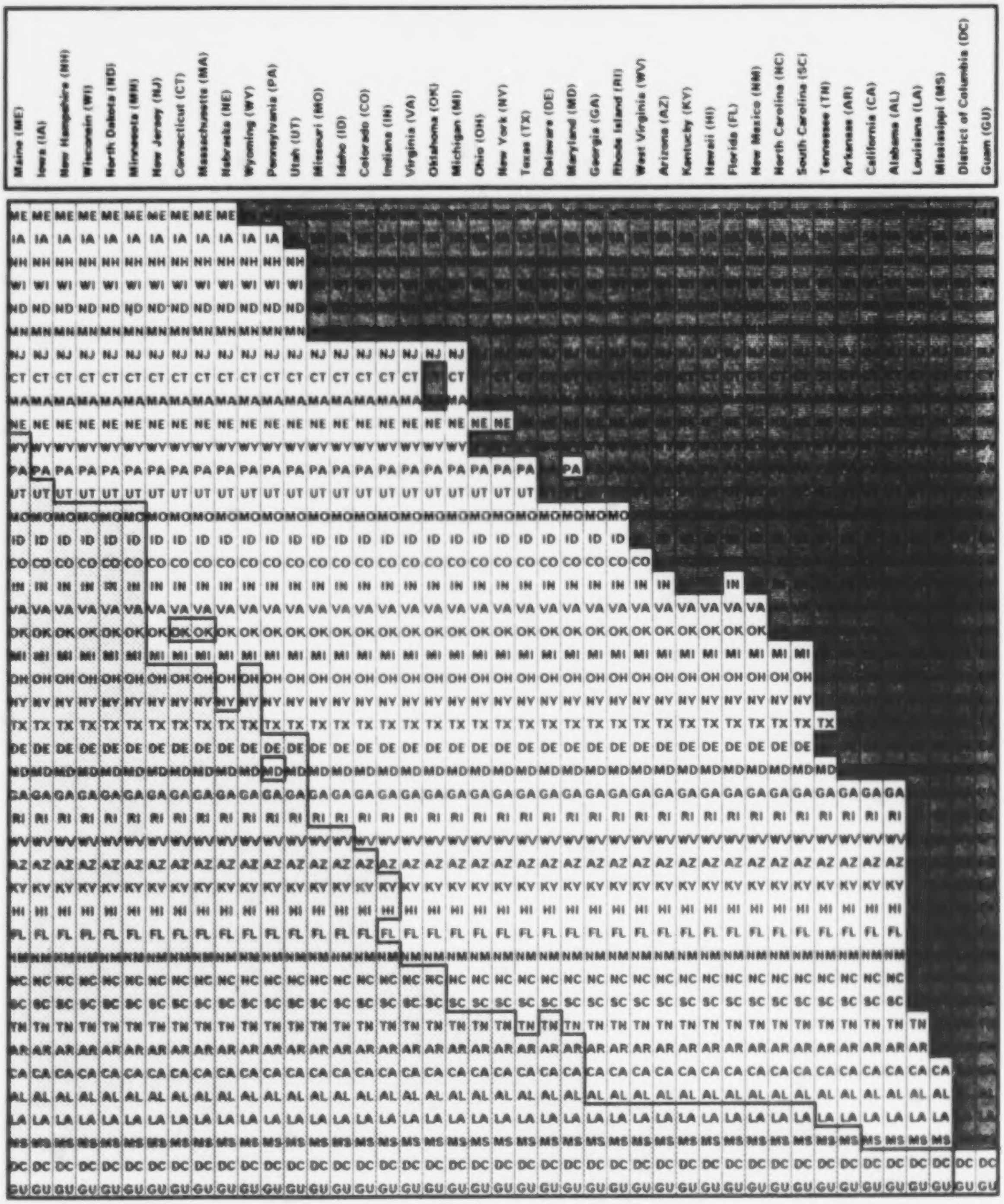
THE NATION'S REPORT CARD naep

1992 Trial State Assessment

THE NATION'S REPORT CARD

FIGURE 1.5 | **Comparisons of Overall Mathematics Average Proficiency 1992 Grade 4**

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.


Maine (ME)
Iowa (IA)
New Hampshire (NH)
Wisconsin (WI)
North Dakota (ND)
Minnesota (MN)
New Jersey (NJ)
Connecticut (CT)
Massachusetts (MA)
Nebraska (NE)
Wyoming (WY)
Pennsylvania (PA)
Utah (UT)
Missouri (MO)
Idaho (ID)
Colorado (CO)
Indiana (IN)
Virginia (VA)
Oklahoma (OK)
Michigan (MI)
Ohio (OH)
New York (NY)
Texas (TX)
Delaware (DE)
Maryland (MD)
Georgia (GA)
Rhode Island (RI)
West Virginia (WV)
Arizona (AZ)
Kentucky (KY)
Hawaii (HI)
Florida (FL)
New Mexico (NM)
North Carolina (NC)
South Carolina (SC)
Tennessee (TN)
Arkansas (AR)
California (CA)
Alabama (AL)
Louisiana (LA)
Mississippi (MS)
District of Columbia (DC)
Guam (GU)
ME
IA
NH
WI
ND
MN
NJ
CT
MA
NE
WY
PA
UT
MO
ID
CO
IN
VA
OK
MI
OH
NY
TX
DE
MD
GA
RI
WV
AZ
KY
HI
FL
NM
NC
SC
TN
AR
CA
AL
LA
MS
DC
GU

■ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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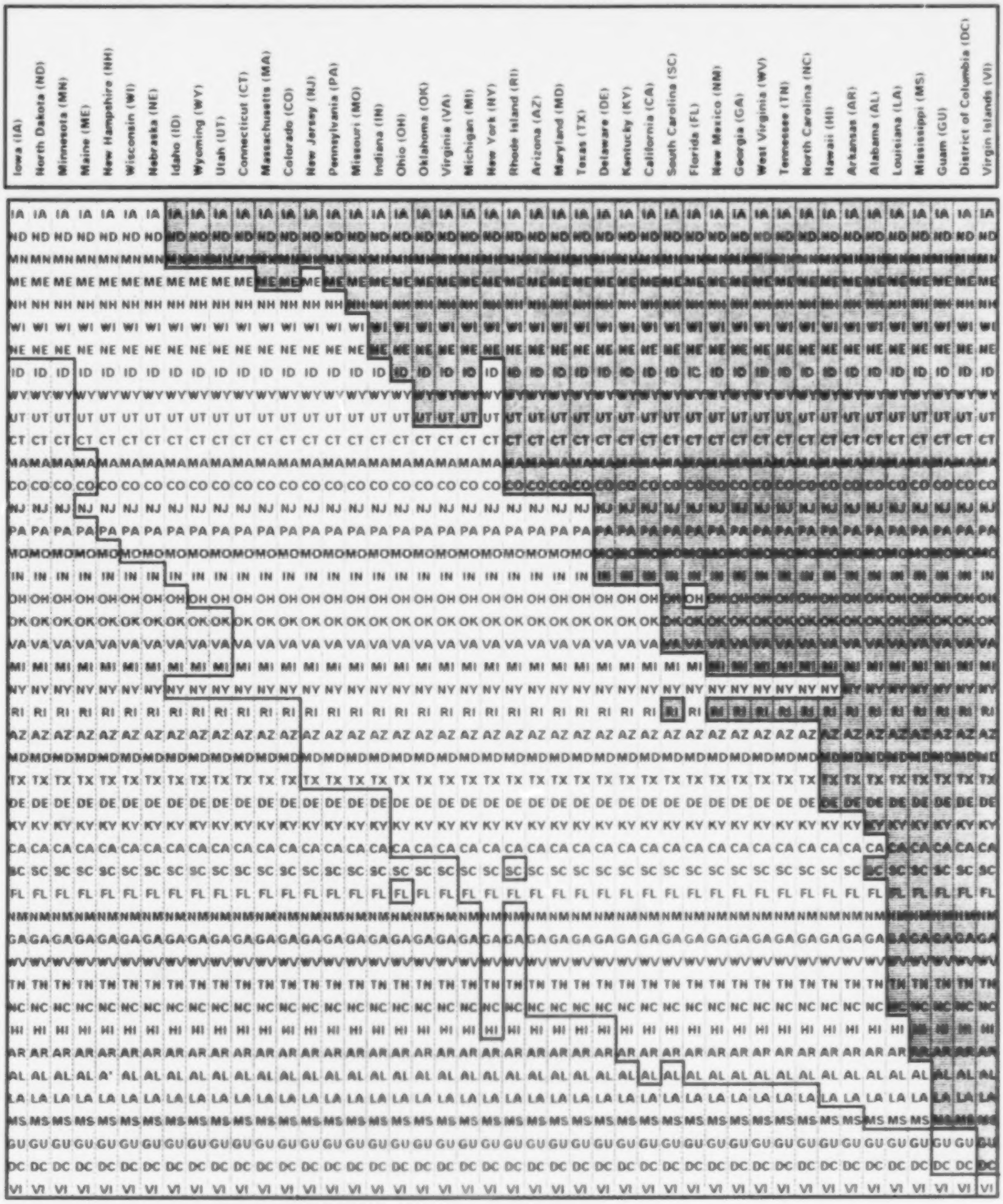
FIGURE 1.6 | Comparisons of Overall Mathematics Average Proficiency 1992 Grade 8

INSTRUCTIONS: Read ***down*** the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.


Iowa (IA)
North Dakota (ND)
Minnesota (MN)
Maine (ME)
New Hampshire (NH)
Wisconsin (WI)
Nebraska (NE)
Idaho (ID)
Wyoming (WY)
Utah (UT)
Connecticut (CT)
Massachusetts (MA)
Colorado (CO)
New Jersey (NJ)
Pennsylvania (PA)
Missouri (MO)
Indiana (IN)
Ohio (OH)
Oklahoma (OK)
Virginia (VA)
Michigan (MI)
New York (NY)
Rhode Island (RI)
Arizona (AZ)
Maryland (MD)
Texas (TX)
Delaware (DE)
Kentucky (KY)
California (CA)
South Carolina (SC)
Florida (FL)
New Mexico (NM)
Georgia (GA)
West Virginia (WV)
Tennessee (TN)
North Carolina (NC)
Hawaii (HI)
Arkansas (AR)
Alabama (AL)
Louisiana (LA)
Mississippi (MS)
Guam (GU)
District of Columbia (DC)
Virgin Islands (VI)
IA ND MN ME NH WI NE ID WY UT CT MA CO NJ PA MO IN OH OK VA MI NY RI AZ MD TX DE KY CA SC FL NM GA WV TN NC HI AR AL LA MS GU DC VI

▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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Percentiles of Overall Mathematics Achievement for the Nation and the States

TABLE 1.5 Percentiles of Overall Mathematics Proficiency, Grades 4, 8, and 12

Grades	Assessment Years	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
4	1992	162 (1.1)	175 (0.9)	197 (1.0)>	220 (1.0)>	241 (1.2)>	259 (0.8)>	269 (1.5)
	1990	159 (1.9)	171 (1.6)	193 (1.0)	214 (1.1)	235 (1.1)	253 (1.5)	264 (1.7)
8	1992	206 (1.9)	220 (0.9)	242 (1.3)	268 (1.4)	294 (0.9)>	315 (1.0)>	326 (1.8)>
	1990	201 (2.3)	215 (2.2)	239 (1.8)	264 (1.2)	288 (1.1)	307 (1.9)	319 (1.6)
12	1992	240 (1.9)>	253 (1.2)>	275 (1.4)	300 (1.2)	323 (1.3)	343 (1.0)	354 (1.3)
	1990	233 (1.6)	247 (1.0)	270 (1.3)	296 (1.5)	319 (1.4)	339 (1.6)	350 (3.1)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent confidence that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

TABLE 1.6 | **Percentiles of Overall Mathematics Proficiency**

PUBLIC SCHOOLS	Grade 4 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	217 (0.8)	161 (1.5)	174 (0.7)	196 (1.0)	219 (0.9)	240 (1.3)	259 (1.1)	269 (2.0)
Northeast	223 (2.1)	165 (3.1)	178 (3.1)	200 (2.6)	225 (3.4)	246 (3.4)	264 (3.8)	274 (3.0)
Southeast	209 (1.9)	154 (2.7)	166 (2.0)	186 (3.0)	209 (2.0)	231 (2.0)	250 (2.3)	261 (5.6)
Central	222 (2.2)	168 (5.8)	182 (3.6)	202 (3.3)	223 (2.7)	243 (2.8)	260 (2.0)	270 (2.5)
West	217 (1.6)	161 (1.6)	173 (2.1)	195 (2.2)	219 (2.1)	240 (2.2)	258 (2.5)	268 (2.6)
STATES								
Alabama	207 (1.6)	154 (2.5)	165 (1.7)	184 (1.5)	207 (2.4)	230 (1.7)	249 (1.8)	259 (3.4)
Arizona	214 (1.1)	160 (2.1)	172 (2.1)	193 (1.7)	215 (1.3)	236 (1.3)	253 (2.3)	264 (1.0)
Arkansas	209 (0.9)	156 (2.1)	167 (1.3)	187 (1.1)	210 (1.3)	230 (1.0)	248 (1.5)	258 (1.7)
California	207 (1.6)	144 (3.1)	158 (2.4)	183 (2.7)	209 (1.3)	233 (1.5)	253 (1.9)	265 (3.1)
Colorado	220 (1.0)	166 (1.7)	179 (1.7)	200 (1.0)	221 (1.4)	241 (1.4)	259 (1.4)	270 (1.0)
Connecticut	226 (1.2)	171 (2.7)	184 (2.2)	205 (1.6)	227 (1.7)	248 (1.7)	266 (1.3)	275 (2.5)
Delaware	217 (0.8)	163 (1.6)	175 (1.5)	194 (1.0)	216 (1.0)	239 (1.5)	259 (1.4)	270 (2.5)
Dist. Columbia	191 (0.5)	141 (1.0)	152 (0.7)	169 (0.7)	190 (0.7)	211 (0.9)	233 (2.2)	250 (1.6)
Florida	212 (1.5)	156 (1.9)	170 (2.5)	191 (2.0)	214 (1.8)	234 (1.4)	254 (2.6)	264 (2.5)
Georgia	214 (1.3)	159 (2.0)	171 (2.0)	192 (1.2)	215 (1.3)	237 (1.7)	257 (2.0)	267 (2.6)
Hawaii	213 (1.3)	155 (1.9)	167 (1.7)	190 (1.6)	214 (1.9)	237 (1.2)	256 (2.1)	267 (1.6)
Idaho	220 (1.0)	172 (2.2)	183 (1.4)	202 (2.5)	222 (0.9)	240 (0.7)	256 (1.2)	264 (0.8)
Indiana	220 (1.1)	174 (1.6)	184 (1.2)	200 (1.7)	220 (1.2)	239 (1.2)	256 (1.0)	267 (2.3)
Iowa	229 (1.1)	179 (2.4)	190 (2.2)	210 (1.1)	231 (0.8)	249 (0.7)	266 (1.1)	275 (0.8)
Kentucky	214 (1.0)	166 (1.9)	176 (1.7)	193 (1.1)	213 (1.1)	234 (0.9)	253 (1.7)	263 (1.7)
Louisiana	203 (1.4)	148 (2.4)	160 (2.3)	181 (1.6)	203 (2.0)	225 (3.2)	244 (1.5)	255 (2.3)
Maine	231 (1.0)	183 (2.1)	194 (1.9)	212 (1.2)	232 (1.8)	251 (1.0)	265 (1.3)	274 (2.1)
Maryland	216 (1.3)	157 (2.7)	169 (2.0)	191 (2.6)	218 (2.2)	241 (1.2)	261 (1.6)	272 (1.5)
Massachusetts	226 (1.2)	172 (3.6)	184 (1.5)	205 (1.5)	227 (1.3)	247 (1.4)	264 (1.1)	274 (1.3)
Michigan	219 (1.8)	159 (4.7)	174 (3.3)	198 (2.3)	221 (1.8)	242 (1.5)	259 (1.6)	268 (2.3)
Minnesota	227 (0.9)	173 (2.6)	186 (3.8)	208 (1.2)	229 (1.0)	249 (0.9)	266 (1.0)	275 (1.4)
Mississippi	200 (1.1)	147 (2.7)	159 (1.7)	178 (1.0)	200 (1.4)	222 (1.2)	241 (1.8)	252 (1.3)
Missouri	221 (1.2)	170 (2.9)	182 (2.9)	201 (1.4)	222 (1.5)	242 (1.2)	260 (1.4)	269 (1.2)
Nebraska	224 (1.3)	172 (2.2)	183 (1.9)	204 (1.7)	226 (1.1)	246 (1.4)	262 (1.6)	272 (3.0)
New Hampshire	229 (1.2)	180 (2.0)	192 (1.6)	210 (1.2)	229 (1.4)	249 (1.3)	265 (2.5)	274 (1.0)
New Jersey	226 (1.5)	170 (5.1)	185 (2.8)	206 (1.9)	228 (1.6)	248 (1.1)	265 (2.3)	274 (2.4)
New Mexico	212 (1.5)	162 (1.8)	172 (2.5)	191 (1.8)	212 (1.0)	232 (1.7)	251 (2.5)	262 (2.3)
New York	217 (1.3)	160 (2.4)	173 (3.2)	196 (1.4)	219 (1.8)	240 (1.7)	258 (1.6)	269 (2.0)
North Carolina	211 (1.1)	156 (2.2)	168 (1.6)	188 (1.4)	213 (1.4)	235 (1.3)	253 (1.2)	264 (1.3)
North Dakota	228 (0.8)	182 (2.0)	193 (2.8)	210 (1.9)	228 (0.8)	246 (0.8)	261 (1.1)	270 (1.3)
Ohio	217 (1.2)	165 (2.0)	177 (2.7)	196 (1.5)	218 (1.3)	239 (2.3)	258 (1.4)	268 (1.4)
Oklahoma	219 (1.0)	173 (1.2)	184 (1.5)	201 (1.2)	219 (1.1)	237 (1.4)	254 (2.2)	264 (2.4)
Pennsylvania	223 (1.4)	169 (2.5)	181 (1.8)	202 (1.9)	225 (1.8)	246 (1.6)	262 (2.3)	272 (2.2)
Rhode Island	214 (1.6)	159 (2.1)	172 (3.1)	193 (2.9)	216 (1.8)	236 (2.0)	254 (2.2)	264 (2.5)
South Carolina	211 (1.1)	160 (1.9)	171 (1.3)	189 (1.2)	210 (1.2)	233 (1.4)	253 (2.4)	263 (2.0)
Tennessee	209 (1.4)	158 (1.9)	169 (2.0)	188 (1.9)	210 (1.7)	231 (1.5)	248 (1.9)	259 (1.9)
Texas	217 (1.3)	164 (1.9)	177 (2.2)	196 (1.5)	217 (1.6)	238 (1.6)	256 (2.7)	267 (1.8)
Utah	223 (1.0)	172 (2.0)	185 (1.6)	204 (0.9)	224 (1.3)	243 (0.8)	260 (0.9)	269 (1.2)
Virginia	220 (1.3)	167 (1.7)	178 (1.4)	197 (1.6)	220 (1.1)	242 (1.8)	262 (2.8)	272 (2.2)
West Virginia	214 (1.1)	164 (1.5)	175 (1.5)	194 (1.4)	214 (1.2)	234 (1.4)	252 (1.8)	263 (1.5)
Wisconsin	228 (1.1)	176 (1.9)	189 (2.1)	209 (1.0)	229 (1.2)	248 (1.3)	264 (1.3)	274 (1.9)
Wyoming	224 (1.0)	177 (1.8)	189 (2.1)	207 (1.9)	225 (1.2)	243 (1.3)	258 (1.2)	267 (1.0)
TERRITORY								
Guam	191 (0.8)	134 (2.8)	147 (1.8)	168 (0.9)	191 (1.1)	214 (1.4)	235 (1.3)	248 (2.1)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 1.6 | Percentiles of Overall Mathematics Proficiency (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	266 (1.0)	205 (2.0)	218 (1.6)	241 (1.3)	267 (1.2)	292 (1.0)	313 (1.4)	325 (1.5)
Northeast	267 (3.0)	205 (3.0)	217 (4.0)	240 (3.1)	266 (4.5)	295 (4.4)	318 (3.8)	332 (2.5)
Southeast	258 (1.2)	201 (3.0)	212 (2.9)	233 (1.7)	259 (1.7)	283 (1.6)	304 (2.5)	315 (1.7)
Central	273 (2.2)	213 (2.8)	227 (2.5)	250 (3.0)	275 (2.4)	297 (2.6)	316 (3.1)	326 (1.9)
West	267 (2.1)	205 (2.2)	218 (2.8)	242 (3.1)	268 (2.5)	293 (1.9)	314 (3.6)	327 (3.5)
STATES								
Alabama	251 (1.7)	193 (4.2)	206 (1.9)	227 (1.8)	251 (2.0)	276 (1.7)	299 (2.0)	311 (2.8)
Arizona	265 (1.3) >	210 (2.1)	222 (1.6) >	243 (1.3)	265 (1.9)	287 (1.2)	307 (1.3)	318 (1.4)
Arkansas	255 (1.2)	197 (2.9)	211 (1.6)	233 (1.2)	256 (1.2)	279 (1.6)	299 (1.6)	311 (1.7)
California	260 (1.7)	194 (3.0)	209 (2.7)	234 (2.6)	261 (1.8)	288 (1.7)	309 (2.5)	321 (3.8)
Colorado	272 (1.1) >	214 (2.8)	228 (1.6)	250 (1.2)	273 (1.1) >	295 (1.2) >	313 (1.2)	323 (1.2)
Connecticut	273 (1.1) >	209 (3.3)	224 (2.6)	249 (1.7)	275 (0.8) >	299 (1.0)	318 (1.4)	329 (2.4)
Delaware	262 (1.0)	202 (3.1)	216 (1.8)	239 (0.9)	262 (1.3)	287 (1.5)	307 (1.4)	319 (1.9)
Dist. Columbia	234 (0.9) >	176 (1.7)	189 (1.0)	209 (1.2)	233 (1.8)	257 (2.8)	280 (1.7)	296 (3.4)
Florida	259 (1.5)	197 (2.0)	210 (3.0)	234 (1.6)	260 (2.0)	285 (1.7)	306 (2.0)	318 (1.4)
Georgia	259 (1.2)	201 (1.9)	214 (1.5)	235 (1.5)	259 (1.3)	283 (2.1)	303 (1.5)	314 (1.8)
Hawaii	257 (0.9) »	194 (2.7)	208 (1.5) »	231 (1.0) »	257 (1.6) >	283 (1.0)	305 (1.3)	317 (1.6)
Idaho	274 (0.8) >	223 (2.1)	235 (1.1)	254 (0.9)	275 (1.2)	296 (0.8)	313 (1.1) >	323 (1.8)
Indiana	269 (1.2)	213 (1.9)	225 (1.5)	247 (1.2)	270 (1.3)	293 (1.9)	313 (2.9)	325 (1.1)
Iowa	283 (1.0) »	233 (1.1)	244 (2.1)	263 (1.4) >	284 (1.1) >	304 (1.5)	321 (1.6)	330 (2.6)
Kentucky	261 (1.1) >	204 (3.3)	216 (1.7)	238 (1.6)	262 (1.0) >	285 (1.3) >	305 (2.8)	318 (1.8)
Louisiana	249 (1.7)	193 (2.8)	205 (2.6)	226 (2.2)	250 (1.6)	272 (2.0)	293 (1.8)	305 (2.1)
Maine	278 (1.0)	226 (1.8)	239 (2.3)	258 (1.2)	279 (1.1)	299 (1.7)	316 (1.3)	327 (2.6)
Maryland	264 (1.3)	199 (2.9)	213 (1.8)	237 (2.3)	265 (1.3)	292 (1.6)	314 (1.6)	326 (1.9)
Massachusetts	272 (1.1)	215 (2.4)	229 (1.4)	249 (2.2)	273 (2.0)	297 (1.6)	316 (1.7)	325 (2.3)
Michigan	267 (1.4)	205 (1.6)	220 (1.4)	243 (2.3)	268 (1.6)	292 (2.9)	311 (2.3)	323 (1.7)
Minnesota	282 (1.0) »	228 (2.4) >	240 (1.4) >	260 (1.4)	283 (1.3) »	304 (1.4) »	322 (1.4) »	332 (2.0)
Mississippi	246 (1.2)	188 (2.6)	201 (1.2)	221 (1.3)	245 (1.2)	270 (1.6)	291 (2.0)	303 (2.8)
Missouri	270 (1.2)	215 (1.8)	228 (2.9)	249 (1.8)	272 (1.4)	293 (1.6)	312 (1.3)	322 (2.2)
Nebraska	277 (1.1)	219 (1.8)	234 (1.7)	256 (1.2)	279 (1.4)	300 (1.0)	317 (1.5)	327 (3.5)
New Hampshire	278 (1.0) »	227 (1.0)	238 (1.1)	258 (0.8)	278 (0.9) >	299 (1.1)	316 (2.0)	327 (2.9)
New Jersey	271 (1.6)	209 (2.8)	222 (1.9)	247 (2.0)	273 (1.9)	297 (2.2)	317 (1.6)	328 (1.3)
New Mexico	259 (0.9) >	205 (2.0)	217 (2.0)	237 (0.9)	259 (1.0)	281 (1.0)	300 (1.3)	312 (2.1)
New York	266 (2.[illegible])	196 (6.5)	213 (3.1)	241 (2.8)	268 (1.8) >	293 (1.4) >	314 (2.4)	326 (1.5)
North Carolina	258 (1.2) »	199 (3.1)	212 (2.6) >	234 (1.3) »	258 (1.2) »	282 (1.4) >	303 (1.5) >	315 (2.5)
North Dakota	283 (1.2)	234 (2.3)	245 (1.2)	264 (1.4)	284 (1.0)	302 (1.4)	318 (1.7)	328 (1.2)
Ohio	267 (1.5)	209 (2.9)	222 (1.9)	244 (2.0)	269 (1.6)	292 (1.4)	310 (1.5)	322 (1.8)
Oklahoma	267 (1.2) >	212 (3.6)	226 (1.3)	247 (1.4)	268 (1.1)	290 (1.4)	308 (1.5)	318 (1.8)
Pennsylvania	271 (1.5)	212 (2.2)	225 (2.3)	248 (1.5)	272 (1.4)	295 (1.1) >	314 (1.8)	326 (1.8)
Rhode Island	265 (0.7) »	208 (1.5) >	221 (1.2) »	243 (1.1) »	267 (1.2) »	289 (1.7)	307 (1.1)	318 (0.9)
South Carolina	260 (1.0)	203 (1.6)	215 (1.3)	235 (1.1)	259 (1.2)	285 (1.7)	307 (1.5)	319 (1.8)
Tennessee	258 (1.4)	202 (3.5)	214 (2.1)	235 (1.5)	258 (1.6)	282 (1.4)	302 (1.5)	312 (2.8)
Texas	264 (1.3) >	203 (1.2)	216 (2.6)	238 (1.2)	264 (1.9)	289 (2.3)	312 (1.5) >	325 (3.3)
Utah	274 (0.7)	218 (1.3)	232 (1.2)	253 (1.7)	275 (0.8)	296 (1.2)	314 (1.2)	324 (1.8)
Virginia	267 (1.2)	209 (1.8)	221 (1.5)	243 (1.7)	267 (1.7)	291 (1.6)	313 (1.5)	325 (1.9)
West Virginia	258 (1.0)	207 (2.7)	218 (1.5)	237 (1.0)	258 (1.7)	280 (1.1)	298 (1.8)	308 (1.8)
Wisconsin	277 (1.5)	219 (3.8)	233 (2.6)	257 (2.1)	279 (1.5)	301 (1.5)	318 (1.4)	326 (1.9)
Wyoming	274 (0.9) >	226 (1.1)	236 (1.0)	254 (1.2)	275 (1.2)	295 (1.2)	312 (1.1)	322 (2.6)
TERRITORIES								
Guam	234 (1.0) >	171 (2.2)	184 (2.1)	207 (1.8)	233 (1.6)	261 (2.5)	286 (3.7)	301 (2.1)
Virgin Islands	222 (1.1) >	173 (2.2)	183 (1.2)	201 (1.6)	221 (1.2)	242 (1.5)	260 (1.6)	272 (0.9)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 1.6 | Percentiles of Overall Mathematics Proficiency (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	262 (1.4)	200 (1.8)	214 (1.8)	237 (1.7)	263 (1.4)	288 (1.7)	307 (1.9)	319 (1.8)
Northeast	270 (3.3)	211 (5.4)	226 (4.2)	247 (2.9)	271 (4.9)	295 (4.6)	311 (3.4)	323 (6.5)
Southeast	254 (2.6)	193 (8.9)	206 (5.5)	228 (3.8)	255 (3.3)	281 (2.0)	302 (3.2)	315 (4.0)
Central	265 (2.3)	207 (4.4)	219 (7.7)	242 (3.4)	266 (3.0)	289 (3.0)	306 (1.2)	317 (4.4)
West	261 (2.6)	198 (4.9)	211 (3.0)	235 (3.2)	262 (1.6)	286 (2.6)	309 (4.1)	322 (4.4)
STATES								
Alabama	253 (1.1)	196 (2.6)	209 (1.9)	229 (1.7)	253 (1.3)	276 (1.3)	297 (1.4)	309 (1.1)
Arizona	260 (1.3)	202 (2.7)	215 (2.1)	236 (2.2)	260 (1.5)	283 (1.1)	304 (2.2)	315 (2.0)
Arkansas	256 (0.9)	201 (1.9)	214 (1.0)	234 (1.6)	257 (1.0)	279 (0.9)	298 (1.8)	309 (2.1)
California	256 (1.3)	194 (2.4)	207 (1.5)	231 (1.6)	257 (1.3)	282 (1.8)	304 (2.1)	317 (3.1)
Colorado	267 (0.9)	211 (1.3)	224 (1.5)	246 (1.1)	268 (1.2)	290 (1.0)	309 (1.0)	320 (1.4)
Connecticut	270 (1.0)	209 (2.3)	223 (1.7)	246 (1.5)	271 (1.2)	295 (1.3)	315 (1.1)	327 (1.1)
Delaware	261 (0.9)	202 (3.0)	216 (2.7)	237 (1.0)	260 (1.1)	286 (1.4)	307 (1.6)	318 (3.5)
Dist. Columbia	231 (0.9)	179 (1.4)	190 (1.7)	209 (1.1)	230 (0.9)	252 (1.3)	274 (2.5)	288 (2.4)
Florida	255 (1.3)	195 (1.4)	209 (1.6)	231 (1.9)	255 (1.0)	280 (1.7)	303 (2.0)	316 (3.3)
Georgia	259 (1.3)	199 (2.2)	211 (1.3)	233 (1.8)	259 (1.3)	284 (2.1)	306 (2.6)	320 (2.4)
Hawaii	251 (0.8)	187 (3.2)	200 (1.4)	224 (1.1)	251 (1.1)	279 (1.3)	302 (1.2)	315 (1.4)
Idaho	271 (0.8)	222 (1.3)	233 (1.3)	252 (0.9)	273 (0.9)	292 (1.1)	309 (1.0)	318 (1.3)
Indiana	267 (1.1)	213 (2.8)	225 (1.8)	245 (1.2)	267 (1.9)	289 (1.5)	309 (1.7)	322 (2.1)
Iowa	278 (1.1)	227 (2.4)	238 (1.1)	257 (1.1)	279 (1.4)	299 (2.1)	317 (1.4)	328 (1.3)
Kentucky	257 (1.2)	204 (2.2)	216 (2.2)	235 (2.1)	256 (1.8)	279 (1.1)	300 (1.9)	312 (2.2)
Louisiana	246 (1.2)	191 (3.4)	204 (1.7)	224 (1.7)	246 (1.7)	269 (1.5)	289 (2.1)	300 (1.3)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	261 (1.4)	198 (3.7)	211 (2.3)	234 (1.8)	262 (1.1)	288 (1.3)	310 (1.8)	322 (1.7)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	264 (1.2)	207 (1.9)	220 (1.8)	241 (1.4)	265 (1.5)	288 (1.6)	308 (2.1)	320 (2.4)
Minnesota	275 (0.9)	220 (1.1)	233 (1.9)	255 (1.5)	277 (0.9)	297 (1.0)	316 (1.0)	326 (1.1)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	276 (1.0)	218 (2.9)	233 (1.8)	255 (2.1)	277 (1.3)	298 (0.9)	316 (1.7)	326 (1.5)
New Hampshire	273 (0.9)	222 (1.8)	234 (1.1)	253 (1.8)	273 (0.9)	294 (1.3)	313 (2.1)	324 (1.3)
New Jersey	270 (1.1)	211 (2.0)	223 (2.1)	245 (1.0)	270 (1.3)	294 (1.6)	316 (2.5)	328 (1.9)
New Mexico	256 (0.7)	202 (3.7)	214 (1.1)	234 (1.1)	257 (1.2)	279 (1.3)	300 (1.9)	311 (1.8)
New York	261 (1.4)	196 (3.7)	212 (3.4)	236 (2.3)	262 (1.3)	286 (1.1)	308 (2.0)	323 (2.9)
North Carolina	250 (1.1)	192 (1.1)	204 (1.5)	225 (1.2)	251 (1.4)	275 (1.0)	296 (1.4)	308 (1.5)
North Dakota	281 (1.2)	230 (1.1)	243 (2.7)	262 (1.8)	282 (1.0)	301 (1.3)	317 (0.9)	327 (3.3)
Ohio	264 (1.0)	208 (1.9)	221 (1.4)	242 (1.4)	264 (1.5)	287 (1.4)	307 (1.1)	318 (2.9)
Oklahoma	263 (1.3)	209 (2.8)	222 (1.8)	242 (1.8)	264 (1.4)	285 (2.0)	304 (2.4)	315 (2.8)
Pennsylvania	266 (1.6)	208 (3.6)	222 (2.8)	244 (2.7)	267 (1.9)	290 (1.2)	309 (2.1)	320 (1.2)
Rhode Island	260 (0.6)	200 (1.7)	213 (0.8)	235 (0.8)	261 (0.8)	286 (0.8)	306 (1.1)	318 (2.6)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	258 (1.4)	201 (1.8)	213 (1.9)	234 (1.5)	258 (1.5)	283 (1.4)	303 (2.2)	316 (2.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	264 (1.5)	206 (1.5)	218 (1.8)	238 (1.8)	264 (1.6)	289 (2.3)	312 (3.4)	327 (4.0)
West Virginia	256 (1.0)	202 (1.5)	215 (1.7)	234 (1.5)	255 (0.7)	277 (1.0)	298 (1.1)	310 (2.4)
Wisconsin	274 (1.3)	218 (1.9)	231 (1.8)	253 (2.2)	276 (1.3)	297 (1.4)	315 (2.4)	327 (1.6)
Wyoming	272 (0.7)	222 (1.2)	235 (1.6)	253 (0.9)	272 (0.9)	293 (0.8)	309 (1.0)	320 (0.7)
TERRITORIES								
Guam	232 (0.7)	171 (1.7)	182 (1.7)	205 (1.7)	231 (1.7)	258 (1.9)	282 (2.0)	295 (1.3)
Virgin Islands	219 (0.9)	170 (3.0)	181 (2.0)	199 (1.1)	218 (1.7)	238 (1.2)	257 (1.6)	269 (2.4)

(xxx) Did not participate in the 1990 Trial State Assessment.

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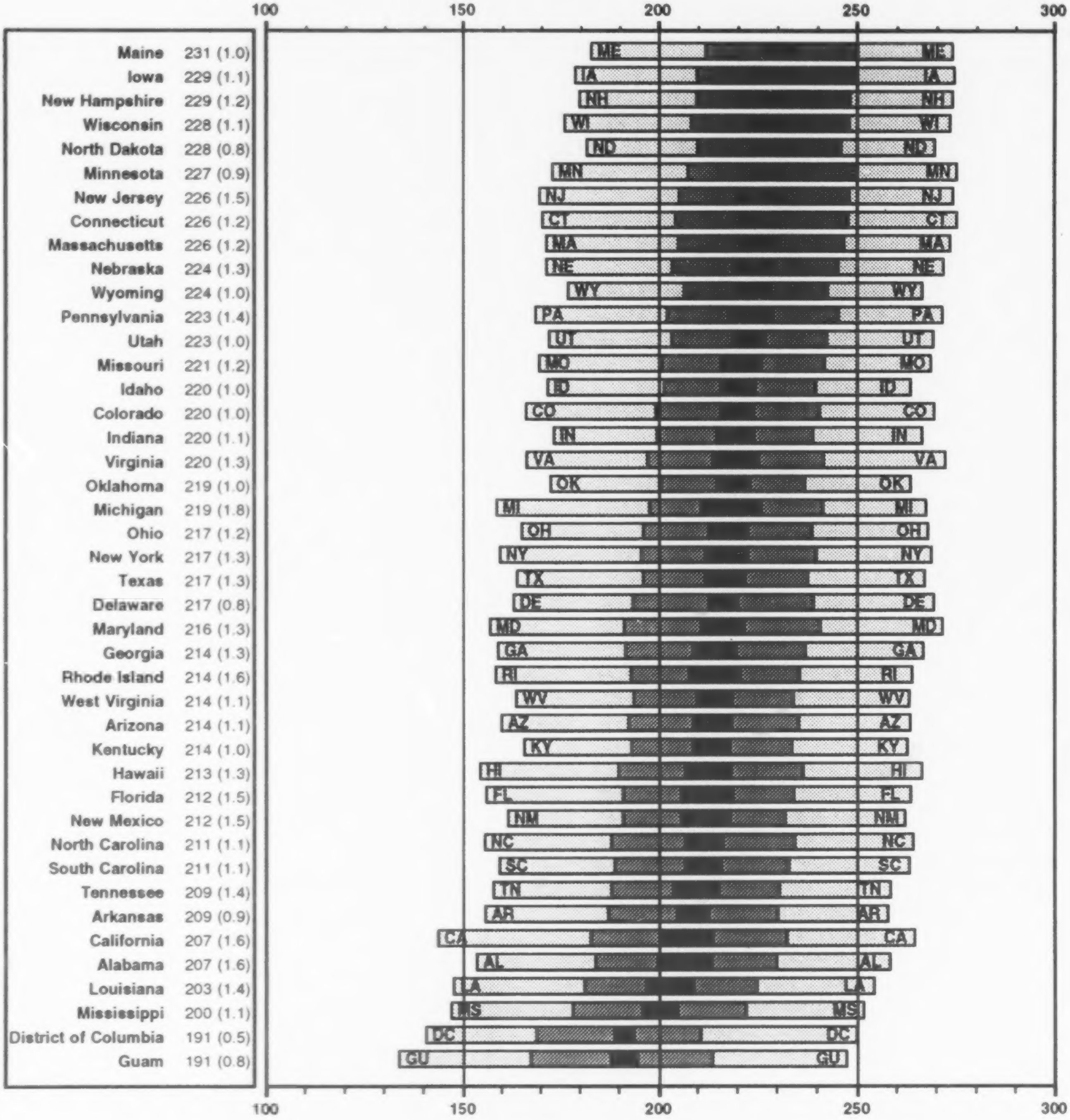
FIGURE 1.7

Distribution of Overall Mathematics Proficiency Organized by Average Proficiency
1992 Grade 4



Maine	231 (1.0)
Iowa	229 (1.1)
New Hampshire	229 (1.2)
Wisconsin	228 (1.1)
North Dakota	228 (0.8)
Minnesota	227 (0.9)
New Jersey	226 (1.5)
Connecticut	226 (1.2)
Massachusetts	226 (1.2)
Nebraska	224 (1.3)
Wyoming	224 (1.0)
Pennsylvania	223 (1.4)
Utah	223 (1.0)
Missouri	221 (1.2)
Idaho	220 (1.0)
Colorado	220 (1.0)
Indiana	220 (1.1)
Virginia	220 (1.3)
Oklahoma	219 (1.0)
Michigan	219 (1.8)
Ohio	217 (1.2)
New York	217 (1.3)
Texas	217 (1.3)
Delaware	217 (0.8)
Maryland	216 (1.3)
Georgia	214 (1.3)
Rhode Island	214 (1.6)
West Virginia	214 (1.1)
Arizona	214 (1.1)
Kentucky	214 (1.0)
Hawaii	213 (1.3)
Florida	212 (1.5)
New Mexico	212 (1.5)
North Carolina	211 (1.1)
South Carolina	211 (1.1)
Tennessee	209 (1.4)
Arkansas	209 (0.9)
California	207 (1.6)
Alabama	207 (1.6)
Louisiana	203 (1.4)
Mississippi	200 (1.1)
District of Columbia	191 (0.5)
Guam	191 (0.8)

100
150
200
250
300
ME
IA
NH
WI
ND
MN
NJ
CT
MA
NE
WY
PA
UT
MO
ID
CO
IN
VA
OK
MI
OH
NY
TX
DE
MD
GA
RI
WV
AZ
KY
HI
FL
NM
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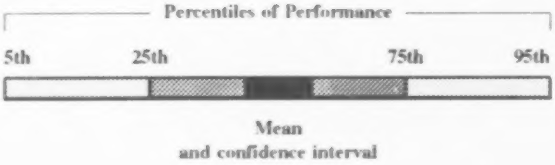
SC
TN
AR
CA
AL
LA
MS
DC
GU

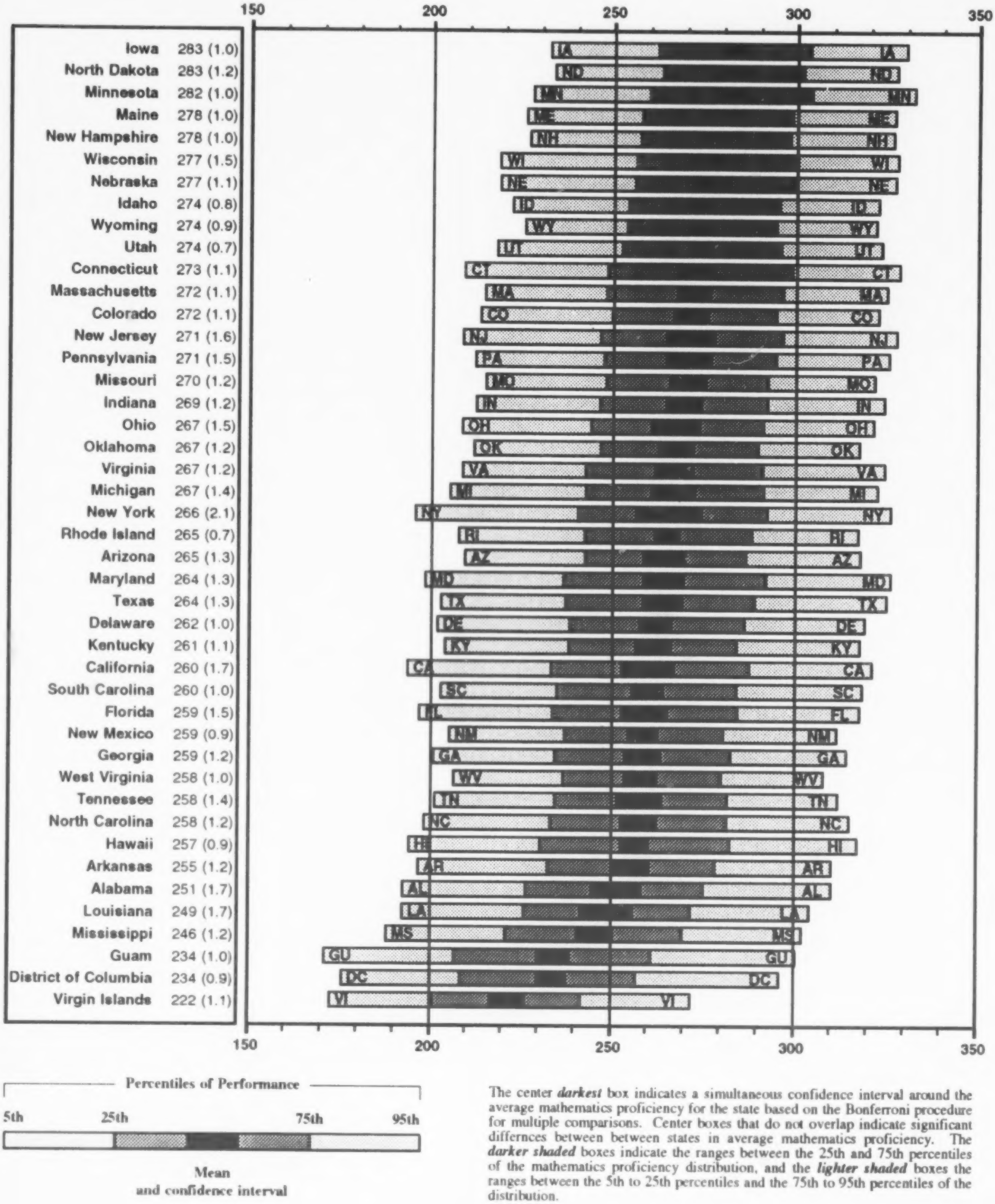

Percentiles of Performance
5th
25th
75th
95th
Mean
and confidence interval

The center ***darkest*** box indicates a simultaneous confidence interval around the average mathematics proficiency for the state based on the Bonferroni procedure for multiple comparisons. Center boxes that do not overlap indicate significant differnces between between states in average mathematics proficiency. The ***darker shaded*** boxes indicate the ranges between the 25th and 75th percentiles of the mathematics proficiency distribution, and the ***lighter shaded*** boxes the ranges between the 5th to 25th percentiles and the 75th to 95th percentiles of the distribution.

FIGURE 1.8

Distribution of Overall Mathematics Proficiency Organized by Average Proficiency 1992 Grade 8

THE NATION'S REPORT CARD naep

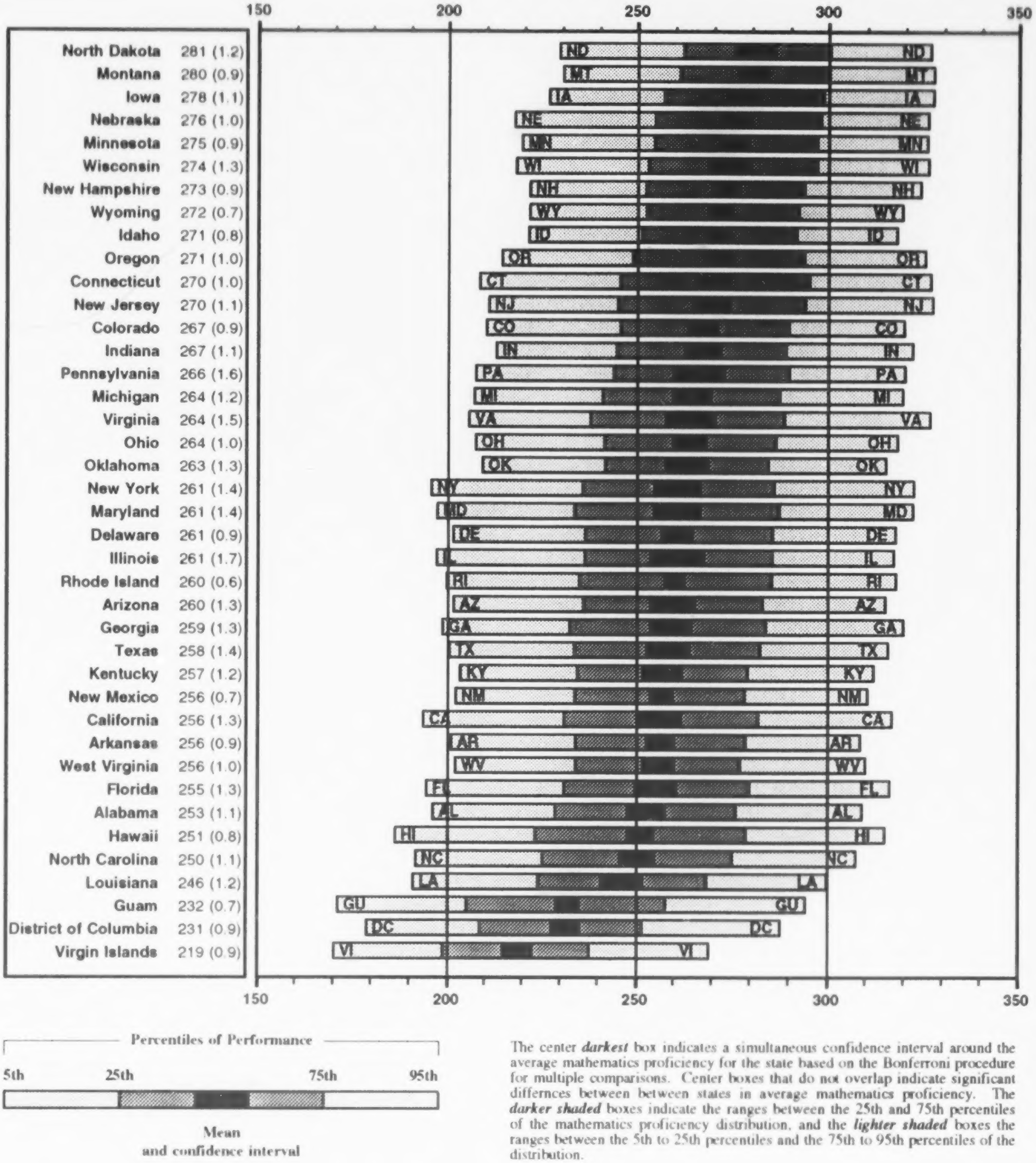


Iowa	283 (1.0)
North Dakota	283 (1.2)
Minnesota	282 (1.0)
Maine	278 (1.0)
New Hampshire	278 (1.0)
Wisconsin	277 (1.5)
Nebraska	277 (1.1)
Idaho	274 (0.8)
Wyoming	274 (0.9)
Utah	274 (0.7)
Connecticut	273 (1.1)
Massachusetts	272 (1.1)
Colorado	272 (1.1)
New Jersey	271 (1.6)
Pennsylvania	271 (1.5)
Missouri	270 (1.2)
Indiana	269 (1.2)
Ohio	267 (1.5)
Oklahoma	267 (1.2)
Virginia	267 (1.2)
Michigan	267 (1.4)
New York	266 (2.1)
Rhode Island	265 (0.7)
Arizona	265 (1.3)
Maryland	264 (1.3)
Texas	264 (1.3)
Delaware	262 (1.0)
Kentucky	261 (1.1)
California	260 (1.7)
South Carolina	260 (1.0)
Florida	259 (1.5)
New Mexico	259 (0.9)
Georgia	259 (1.2)
West Virginia	258 (1.0)
Tennessee	258 (1.4)
North Carolina	258 (1.2)
Hawaii	257 (0.9)
Arkansas	255 (1.2)
Alabama	251 (1.7)
Louisiana	249 (1.7)
Mississippi	246 (1.2)
Guam	234 (1.0)
District of Columbia	234 (0.9)
Virgin Islands	222 (1.1)

The center ***darkest*** box indicates a simultaneous confidence interval around the average mathematics proficiency for the state based on the Bonferroni procedure for multiple comparisons. Center boxes that do not overlap indicate significant differnces between between states in average mathematics proficiency. The ***darker shaded*** boxes indicate the ranges between the 25th and 75th percentiles of the mathematics proficiency distribution, and the ***lighter shaded*** boxes the ranges between the 5th to 25th percentiles and the 75th to 95th percentiles of the distribution.

FIGURE 1.9

Distribution of Overall Mathematics Proficiency Organized by Average Proficiency
1990 Grade 8



North Dakota	281 (1.2)
Montana	280 (0.9)
Iowa	278 (1.1)
Nebraska	276 (1.0)
Minnesota	275 (0.9)
Wisconsin	274 (1.3)
New Hampshire	273 (0.9)
Wyoming	272 (0.7)
Idaho	271 (0.8)
Oregon	271 (1.0)
Connecticut	270 (1.0)
New Jersey	270 (1.1)
Colorado	267 (0.9)
Indiana	267 (1.1)
Pennsylvania	266 (1.6)
Michigan	264 (1.2)
Virginia	264 (1.5)
Ohio	264 (1.0)
Oklahoma	263 (1.3)
New York	261 (1.4)
Maryland	261 (1.4)
Delaware	261 (0.9)
Illinois	261 (1.7)
Rhode Island	260 (0.6)
Arizona	260 (1.3)
Georgia	259 (1.3)
Texas	258 (1.4)
Kentucky	257 (1.2)
New Mexico	256 (0.7)
California	256 (1.3)
Arkansas	256 (0.9)
West Virginia	256 (1.0)
Florida	255 (1.3)
Alabama	253 (1.1)
Hawaii	251 (0.8)
North Carolina	250 (1.1)
Louisiana	246 (1.2)
Guam	232 (0.7)
District of Columbia	231 (0.9)
Virgin Islands	219 (0.9)

150
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NM
CA
AR
WV
FL
AL
HI
NC
LA
GU
DC
VI
Percentiles of Performance
5th
25th
75th
95th
Mean
and confidence interval

The center ***darkest*** box indicates a simultaneous confidence interval around the average mathematics proficiency for the state based on the Bonferroni procedure for multiple comparisons. Center boxes that do not overlap indicate significant differnces between between states in average mathematics proficiency. The ***darker shaded*** boxes indicate the ranges between the 25th and 75th percentiles of the mathematics proficiency distribution, and the ***lighter shaded*** boxes the ranges between the 5th to 25th percentiles and the 75th to 95th percentiles of the distribution.

CHAPTER TWO

Overall Mathematics Achievement for Demographic Groups for the Nation and the States

Overview

Chapter Two provides the national and state results, including averages and proficiency levels, for various demographic subpopulations. Data for the nation and states are provided by race/ethnicity, gender, type of community, parents' educational level, and average school performance. In the latter analysis, NAEP sorted schools by their students' average performance on the mathematics assessments, identifying the top one-third of the schools. To summarize performance across states, Figure 2.1 presents the average mathematics proficiency for the states and territories that participated in the 1992 Trial State Assessment by 20-percent bands, called quintiles, for selected demographic subgroups. National results are presented by public and private schools, as well as for some variables only pertinent to grade 12 (type of high-school program and plans subsequent to graduation).

FIGURE 2.1

Average Overall Mathematics Proficiency by Selected Demographics for Five Performance Bands (Quintiles) 1992 Grade 4

THE NATION'S REPORT CARD

	GENDER		RACE/ETHNICITY			SIZE AND TYPE OF COMMUNITY				PARENTS' EDUCATION			
	Male	Female	White	Black	Hispanic	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	College Graduate	Some College	High School Graduate	Less than High School
Alabama (AL)	1	1	1	1	1	2	2	1	1	1	1	1	3
Arizona (AZ)	2	3	3	4	2	1	5	2	2	2	3	3	3
Arkansas (AR)	1	1	1	1	1	X	2	2	1	1	1	2	1
California (CA)	1	1	2	1	1	2	1	X	1	1	1	1	1
Colorado (CO)	3	4	3	5	3	3	4	3	3	5	4	3	2
Connecticut (CT)	5	5	5	3	3	4	3	X	5	5	3	4	4
Delaware (DE)	3	3	3	4	2	1	5	3	3	3	1	3	1
District of Columbia (DC)	1	1	5	2	1	1	1	X	1	1	1	1	1
Florida (FL)	2	2	2	2	4	2	2	2	3	2	2	2	2
Georgia (GA)	2	3	4	4	1	5	2	3	2	2	3	2	3
Hawaii (HI)	2	2	1	5	2	1	2	2	2	1	2	1	2
Idaho (ID)	4*	4	2	X	3	3	X	3	3	3	5	3	2
Indiana (IN)	4	4	2	3	5	3	3	4	3	3	5	4	4
Iowa (IA)	5	5	5	3	5	5	5	5	4	5	5	5	5
Kentucky (KY)	2	2	1	5	2	3	5	3	2	2	2	2	3
Louisiana (LA)	1	1	1	1	2	1	1	1	1	1	1	1	1
Massachusetts (MA)	5	5	5	2	3	5	4	X	5	5	4	4	1
Maryland (MD)	3	3	4	3	4	2	1	4	3	3	4	2	2
Maine (ME)	5	5	5	X	5	X	X	5	5	5	5	5	5
Michigan (MI)	4	3	3	1	3	5	1	3	4	3	3	3	3
Minnesota (MN)	5	5	5	2	4	4	X	5	5	5	4	5	X
Mississippi (MS)	1	1	1	1	1	X	1	1	1	1	1	1	1
Missouri (MO)	3	4	3	4	5	5	2	4	5	4	4	4	4
Nebraska (NE)	4	4	4	2	5	4	4	4	4	4	5	5	X
New Hampshire (NH)	5	5	5	X	5	3	X	5	5	5	4	5	5
New Jersey (NJ)	4	5	5	4	3	5	3	X	5	5	5	4	4
New Mexico (NM)	2	2	3	5	3	1	3	1	1	2	3	2	3
New York (NY)	3	2	4	5	2	2	3	X	4	3	3	3	5
North Carolina (NC)	1	2	2	2	2	3	4	2	1	2	2	1	2
North Dakota (ND)	5	5	4	X	5	4	X	5	4	5	5	5	X
Ohio (OH)	3	3	2	3	4	4	3	3	4	4	2	4	4
Oklahoma (OK)	3	3	2	5	5	1	5	4	3	3	3	4	4
Pennsylvania (PA)	4	4	4	3	3	4	3	5	5	4	5	5	5
Rhode Island (RI)	2	2	2	2	1	5	2	X	3	3	2	2	2
South Carolina (SC)	2	1	3	3	2	2	2	1	2	2	2	1	4
Tennessee (TN)	1	1	1	2	1	1	1	1	2	1	1	2	3
Texas (TX)	3	3	4	4	4	5	4	4	2	3	3	3	5
Utah (UT)	4	4	3	X	4	3	5	3	4	5	4	4	4
Virginia (VA)	4	3	4	4	5	3	5	2	3	4	2	3	3
West Virginia (WV)	3	2	1	5	3	X	4	2	2	2	3	3	2
Wisconsin (WI)	5	5	5	4	5	5	4	4	5	5	5	5	5
Wyoming (WY)	4	4	3	X	5	2	5	5	4	4	5	5	5
Guam (GU)	1	1	1	1	1	X	X	1	1	1	1	1	1

Quintiles of Performance

bottom 20 percent — top 20 percent

1st	2nd	3rd	4th	5th

lower ← proficiency → higher

States categorized in the bottom 20 percent of performance have average mathematics proficiencies in the lowest fifth of the average mathematics proficiency distribution of all states and are indicated by the number 1 (first quintile). States with average proficiencies in the top 20 percent of the distribution are indicated by the number 5 (fifth quintile). The numbers 2, 3, and 4 indicate states with average proficiencies in the second, third, and fourth fifths of the distribution.

X Sample size too small (fewer than 62 students) to permit reliable reporting of performance bands (quintiles).

FIGURE 2.1
(cont.)

Average Overall Mathematics Proficiency by Selected Demographics for Five Performance Bands (Quintiles) 1992 Grade 8

THE NATION'S REPORT CARD

	GENDER		RACE/ETHNICITY			SIZE AND TYPE OF COMMUNITY				PARENTS' EDUCATION			
	Male	Female	White	Black	Hispanic	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	College Graduate	Some College	High School Graduate	Less than High School
Alabama (AL)	1	1	1	1	1	1	1	1	1	1	1	1	1
Arizona (AZ)	3	3	3	4	4	2	4	2	3	3	3	3	3
Arkansas (AR)	1	1	1	1	1	X	1	2	1	1	1	2	3
California (CA)	2	2	3	2	3	4	1	X	3	2	2	2	1
Colorado (CO)	4	4	4	4	5	3	5	4	4	5	4	5	5
Connecticut (CT)	4	4	5	4	3	2	3	X	5	5	4	5	3
Delaware (DE)	2	3	2	3	2	X	X	3	2	2	2	2	3
District of Columbia (DC)	1	1	X	2	1	1	1	X	1	1	1	1	1
Florida (FL)	2	2	2	2	3	1	4	2	2	2	2	2	2
Georgia (GA)	2	2	2	4	2	1	3	1	2	2	1	2	2
Hawaii (HI)	1	2	1	X	2	1	2	X	2	1	2	1	2
Idaho (ID)	5	5	4	X	5	5	4	5	5	5	4	5	5
Indiana (IN)	4	4	3	5	4	3	3	3	5	4	5	4	5
Iowa (IA)	5	5	5	X	5	5	5	5	5	5	5	5	5
Kentucky (KY)	2	2	1	3	2	3	4	3	2	3	2	3	3
Louisiana (LA)	1	1	1	1	1	X	1	1	1	1	1	1	1
Massachusetts (MA)	4	4	4	5	2	5	3	X	5	5	4	4	4
Maryland (MD)	3	3	4	3	3	3	2	X	3	3	2	2	1
Maine (ME)	5	5	4	X	X	X	X	4	5	5	5	5	5
Michigan (MI)	4	3	4	1	4	4	2	4	4	3	3	3	4
Minnesota (MN)	5	5	5	X	4	4	X	5	5	5	5	4	5
Mississippi (MS)	1	1	1	1	1	X	2	1	1	1	1	1	1
Missouri (MO)	4	4	3	4	5	1	4	3	4	4	4	4	4
Nebraska (NE)	5	5	4	2	5	X	4	5	4	4	5	5	3
New Hampshire (NH)	5	5	5	X	5	5	X	4	5	5	5	4	5
New Jersey (NJ)	4	4	5	4	5	5	2	X	5	4	4	5	4
New Mexico (NM)	2	2	2	X	4	2	5	2	2	2	1	2	2
New York (NY)	3	3	5	1	3	5	1	4	3	3	3	3	2
North Carolina (NC)	1	1	2	3	2	2	2	1	1	2	2	1	1
North Dakota (ND)	5	5	5	X	X	3	X	5	5	5	5	5	5
Ohio (OH)	3	3	3	2	3	5	3	5	3	3	5	5	2
Oklahoma (OK)	3	3	2	3	5	X	5	3	3	3	3	3	5
Pennsylvania (PA)	4	4	3	3	3	4	3	4	4	4	4	4	4
Rhode Island (RI)	3	3	2	3	2	3	2	X	3	2	3	3	2
South Carolina (SC)	2	2	2	4	2	1	3	3	2	2	2	1	3
Tennessee (TN)	2	1	1	2	1	2	1	2	2	1	2	2	2
Texas (TX)	3	2	4	5	4	4	4	3	2	4	3	3	3
Utah (UT)	5	4	3	X	5	2	5	3	4	3	5	5	5
Virginia (VA)	3	4	3	5	5	3	4	2	3	5	3	3	5
West Virginia (WV)	2	2	1	5	2	X	5	2	1	2	3	2	2
Wisconsin (WI)	5	5	5	5	3	5	2	5	5	5	5	5	5
Wyoming (WY)	4	5	4	X	5	X	5	4	4	4	5	4	5
Guam (GU)	1	1	2	X	1	X	X	1	1	1	1	1	1
Virgin Islands (VI)	1	1	X	1	1	X	X	1	1	1	1	1	1

Quintiles of Performance

bottom 20 percent — top 20 percent

1st	2nd	3rd	4th	5th

lower ← proficiency → higher

States categorized in the bottom 20 percent of performance have average mathematics proficiencies in the lowest fifth of the average mathematics proficiency distribution of all states and are indicated by the number 1 (first quintile). States with average proficiencies in the top 20 percent of the distribution are indicated by the number 5 (fifth quintile). The numbers 2, 3, and 4 indicate states with average proficiencies in the second, third, and fourth fifths of the distribution.

X Sample size too small (fewer than 62 students) to permit reliable reporting of performance bands (quintiles).

TABLE 2.1 Average Mathematics Proficiency and Achievement Levels by Race/Ethnicity, Grades 4, 8, and 12

				Percentage of Students At or Above			
	Assessment Years	**Percentage of Students**	**Average Proficiency**	**Advanced**	**Proficient**	**Basic**	**Percentage Below Basic**
Grade 4							
White	1992	70 (0.2)	227 (0.9)>	3 (0.4)	23 (1.4)>	72 (1.2)>	**28 (1.2)<**
	1990	70 (0.2)	220 (1.1)	2 (0.5)	17 (1.5)	64 (1.7)	**36 (1.7)**
Black	1992	16 (0.1)	192 (1.3)	0 (0.1)	3 (0.7)	24 (1.8)	**76 (1.8)**
	1990	15 (0.1)	189 (1.8)	0 (0.1)	2 (0.5)	22 (2.5)	**78 (2.5)**
Hispanic	1992	10 (0.2)	201 (1.4)	0 (0.2)	6 (1.1)	37 (2.1)	**63 (2.1)**
	1990	10 (0.2)	198 (2.0)	0 (0.2)	5 (1.2)	34 (3.0)	**66 (3.0)**
Asian Pacific Islander	1992	2 (0.2)	231 (2.4)	5 (2.1)	30 (4.7)	76 (3.4)	**24 (3.4)**
	1990	2 (0.2)	228 (3.5)	4 (3.8)	24 (5.0)	69 (6.5)	**31 (6.5)**
American Indian	1992	2 (0.2)	209 (3.2)	2 (1.3)	10 (3.6)	46 (4.5)	**54 (4.5)**
	1990	2 (0.2)	208 (3.9)	0 (0.5)	5 (2.7)	48 (8.4)	**52 (8.4)**
Grade 8							
White	1992	70 (0.2)	277 (1.0)>	4 (0.5)	32 (1.3)>	74 (1.3)>	**26 (1.3)<**
	1990	71 (0.3)	270 (1.4)	3 (0.5)	24 (1.5)	68 (1.5)	**32 (1.5)**
Black	1992	16 (0.1)	237 (1.4)	0 (0.4)	3 (0.8)	27 (2.1)	**73 (2.1)**
	1990	15 (0.2)	238 (2.7)	0 (0.3)	6 (1.2)	28 (3.1)	**72 (3.1)**
Hispanic	1992	10 (0.2)	246 (1.2)	1 (0.5)	8 (1.0)	39 (2.0)	**61 (2.0)**
	1990	10 (0.2)	244 (2.8)	0 (0.2)	6 (1.5)	38 (3.1)	**62 (3.1)**
Asian Pacific Islander	1992	2 (0.2)	288 (5.5)	14 (4.5)	44 (7.3)	80 (4.1)	**20 (4.1)**
	1990	2 (0.5)	279 (4.8)!	6 (2.5)	38 (5.5)	76 (5.3)	**24 (5.3)**
American Indian	1992	1 (0.2)	254 (2.8)	0 (0.0)	9 (3.5)	47 (4.7)	**53 (4.7)**
	1990	2 (0.6)	246 (9.4)!	0 (0.3)	9 (8.7)	39(11.0)	**61(11.0)**
Grade 12							
White	1992	71 (0.6)	305 (0.9)>	2 (0.4)	19 (1.1)	72 (1.3)	**28 (1.3)**
	1990	74 (0.6)	300 (1.2)	2 (0.4)	16 (1.3)	67 (1.7)	**33 (1.7)**
Black	1992	15 (0.4)	275 (1.7)>	0 (0.2)	3 (0.6)	34 (2.5)	**66 (2.5)**
	1990	14 (0.5)	268 (1.9)	0 (0.1)	2 (1.0)	28 (2.7)	**72 (2.7)**
Hispanic	1992	10 (0.5)	283 (1.8)>	1 (0.4)	6 (0.8)	45 (2.1)	**55 (2.1)**
	1990	8 (0.2)	276 (2.8)	0 (0.4)	4 (1.2)	37 (4.2)	**63 (4.2)**
Asian Pacific Islander	1992	4 (0.2)	315 (3.5)	6 (1.4)	31 (5.7)	81 (4.3)	**19 (4.3)**
	1990	3 (0.3)	311 (5.2)	5 (2.6)	25 (6.2)	76 (5.0)	**24 (5.0)**
American Indian	1992	1 (0.1)	281 (9.0)	0 (0.3)	4 (2.7)	46(16.3)	**54(16.3)**
	1990	1 (0.3)	288(10.2)!	0 (0.0)	4 (6.8)	62(15.9)	**38(15.9)**

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. ! Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 2.2 | Average Mathematics Proficiency by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992									
	White		Black		Hispanic		Asian / Pacific Islander		American Indian	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	69 (0.4)	226 (1.0)	17 (0.4)	191 (1.4)	10 (0.2)	199 (1.5)	3 (0.3)	232 (2.6)	2 (0.2)	208 (3.5)
Northeast	71 (2.9)	232 (2.4)	17 (2.7)	194 (3.1)	8 (1.2)	200 (3.2)	2 (0.7)	*** (***)	1 (0.3)	*** (***)
Southeast	61 (2.5)	219 (2.2)	30 (2.6)	190 (2.0)	6 (1.0)	198 (3.4)	1 (0.3)	*** (***)	1 (0.3)	*** (***)
Central	80 (1.8)	228 (1.8)	12 (1.7)	192 (4.3)	6 (0.8)	198 (3.3)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
West	64 (1.7)	225 (1.8)	10 (1.7)	188 (2.7)	17 (1.6)	200 (2.0)	5 (1.0)	232 (3.2)	2 (0.3)	*** (***)
STATES										
Alabama	61 (2.5)	218 (1.6)	32 (2.3)	187 (1.1)	4 (0.6)	192 (4.0)	1 (0.2)	*** (***)	2 (1.0)	*** (***)
Arizona	56 (2.1)	225 (0.8)	4 (0.7)	198 (3.6)	29 (1.5)	202 (1.3)	1 (0.2)	*** (***)	10 (1.7)	191 (3.5)
Arkansas	69 (1.5)	217 (1.0)	21 (1.4)	187 (1.7)	6 (0.6)	193 (2.9)	1 (0.2)	*** (***)	3 (0.4)	210 (3.7)
California	45 (2.0)	220 (1.8)	6 (0.7)	182 (3.3)	35 (1.7)	190 (1.6)	11 (1.1)	223 (2.7)	3 (0.5)	207 (6.7)
Colorado	68 (1.5)	227 (1.1)	5 (1.0)	199 (2.9)	22 (1.3)	205 (1.5)	3 (0.3)	222 (4.4)	3 (0.3)	214 (4.5)
Connecticut	73 (1.4)	234 (0.9)	10 (1.1)	193 (2.7)	13 (1.1)	204 (2.8)	2 (0.4)	*** (***)	1 (0.2)	*** (***)
Delaware	66 (1.1)	226 (0.9)	23 (0.9)	196 (1.4)	8 (0.4)	197 (2.6)	1 (0.2)	*** (***)	2 (0.4)	*** (***)
Dist. Columbia	5 (0.4)	241 (4.2)	82 (0.6)	189 (0.7)	10 (0.4)	181 (2.3)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Florida	58 (2.2)	223 (1.4)	21 (2.0)	189 (2.0)	17 (1.3)	205 (2.5)	2 (0.4)	*** (***)	2 (0.3)	*** (***)
Georgia	56 (2.2)	228 (1.2)	35 (2.1)	195 (1.4)	6 (0.6)	196 (2.7)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Hawaii	21 (1.6)	218 (1.8)	4 (0.6)	198 (3.3)	11 (0.7)	197 (2.6)	61 (2.1)	215 (1.6)	2 (0.3)	*** (***
Idaho	84 (1.2)	223 (1.0)	1 (0.2)	*** (***)	11 (1.0)	202 (2.4)	1 (0.2)	*** (***)	3 (0.3)	212 (3.0)
Indiana	82 (1.5)	224 (0.9)	10 (1.3)	194 (2.4)	5 (0.6)	208 (2.0)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Iowa	90 (0.9)	231 (1.0)	2 (0.5)	193 (3.9)!	5 (0.5)	218 (2.6)	1 (0.3)	*** (***)	2 (0.3)	*** (***)
Kentucky	85 (1.6)	216 (1.0)	9 (1.3)	200 (2.5)	4 (0.6)	197 (3.0)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Louisiana	50 (2.0)	217 (1.5)	43 (2.0)	186 (1.7)	5 (0.6)	199 (4.3)	2 (0.7)	*** (***)	1 (0.3)	*** (***)
Maine	91 (0.7)	232 (1.1)	1 (0.1)	*** (***)	5 (0.6)	218 (3.6)	1 (0.2)	*** (***)	3 (0.5)	*** (***)
Maryland	59 (1.7)	228 (1.2)	30 (1.4)	193 (1.9)	6 (0.6)	205 (3.6)	4 (0.5)	235 (3.8)	2 (0.2)	*** (***)
Massachusetts	79 (1.6)	231 (1.0)	7 (0.8)	192 (3.1)	8 (0.8)	205 (2.7)	4 (0.7)	228 (8.0)	2 (0.2)	*** (***)
Michigan	73 (1.8)	227 (1.5)	13 (1.7)	184 (3.9)	9 (0.9)	204 (2.6)	2 (0.3)	*** (***)	3 (0.4)	210 (4.0)
Minnesota	85 (1.3)	231 (0.9)	3 (0.5)	192 (3.1)	7 (0.8)	206 (2.9)	2 (0.4)	*** (***)	2 (0.3)	*** (***)
Mississippi	40 (2.0)	217 (1.3)	52 (2.1)	188 (1.3)	6 (0.9)	184 (2.9)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Missouri	77 (1.7)	227 (1.1)	14 (1.7)	194 (2.2)	6 (0.5)	206 (3.2)	1 (0.2)	*** (***)	2 (0.4)	*** (***)
Nebraska	84 (1.3)	228 (1.2)	6 (0.7)	188 (2.5)	7 (0.9)	209 (3.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
New Hampshire	89 (1.2)	230 (1.1)	1 (0.2)	*** (***)	5 (0.6)	214 (2.7)	1 (0.2)	*** (***)	3 (0.3)	*** (***)
New Jersey	66 (2.2)	236 (1.3)	14 (1.2)	197 (2.6)	14 (1.5)	205 (2.6)	5 (0.8)	240 (3.0)	1 (0.3)	*** (***)
New Mexico	44 (2.4)	224 (1.5)	4 (0.5)	201 (3.9)	47 (2.0)	202 (1.5)	1 (0.3)	*** (***)	4 (1.3)	206 (2.9)!
New York	59 (2.2)	228 (1.4)	13 (1.6)	198 (2.7)	22 (1.7)	198 (2.3)	4 (0.8)	235 (4.4)!	2 (0.4)	*** (***)
North Carolina	62 (1.7)	222 (1.1)	29 (1.3)	191 (1.3)	6 (0.7)	198 (4.2)	1 (0.2)	*** (***)	3 (0.9)	202 (4.9)!
North Dakota	91 (1.0)	229 (0.8)	0 (0.2)	*** (***)	4 (0.6)	213 (3.6)	1 (0.2)	*** (***)	4 (0.8)	211 (3.2)!
Ohio	79 (1.5)	221 (1.1)	11 (1.2)	193 (3.0)	6 (0.5)	206 (3.3)	1 (0.3)	*** (***)	2 (0.4)	216 (4.2)
Oklahoma	73 (1.5)	223 (1.0)	9 (1.2)	200 (2.6)	7 (0.8)	208 (2.5)	1 (0.2)	*** (***)	10 (0.8)	211 (2.0)
Pennsylvania	77 (1.6)	230 (1.2)	12 (1.6)	192 (2.5)	7 (0.8)	203 (2.3)	2 (0.4)	*** (***)	1 (0.3)	*** (***)
Rhode Island	78 (2.1)	221 (1.3)	6 (1.0)	189 (3.4)	11 (1.1)	188 (2.8)	3 (0.4)	191 (4.3)	2 (0.3)	*** (***)
South Carolina	55 (1.7)	224 (1.2)	37 (1.8)	193 (1.1)	6 (0.8)	198 (2.7)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Tennessee	69 (2.1)	217 (1.2)	23 (1.9)	191 (1.9)	5 (0.8)	191 (4.2)	1 (0.4)	*** (***)	1 (0.2)	*** (***)
Texas	49 (1.8)	228 (1.7)	14 (1.8)	197 (2.0)	34 (2.3)	207 (1.9)	2 (0.4)	234 (4.5)	1 (0.2)	*** (***)
Utah	86 (1.0)	225 (1.0)	1 (0.2)	*** (***)	10 (0.8)	208 (2.2)	2 (0.3)	*** (***)	2 (0.3)	*** (***)
Virginia	67 (1.4)	228 (1.5)	23 (1.3)	196 (1.5)	5 (0.6)	211 (3.4)	3 (0.4)	236 (4.6)	1 (0.3)	*** (***)
West Virginia	90 (0.9)	215 (1.0)	3 (0.4)	202 (4.4)	5 (0.8)	202 (3.0)	1 (0.2)	*** (***)	2 (0.2)	*** (***)
Wisconsin	81 (1.4)	233 (0.9)	6 (1.0)	194 (2.9)	7 (0.7)	211 (3.0)	2 (0.5)	*** (***)	3 (1.1)	206 (8.0)!
Wyoming	82 (1.4)	227 (0.9)	1 (0.2)	*** (***)	11 (0.9)	214 (1.8)	1 (0.2)	*** (***)	5 (1.2)	211 (4.0)!
TERRITORY										
Guam	12 (0.7)	205 (2.0)	4 (0.4)	183 (5.4)	20 (0.8)	179 (2.1)	62 (1.0)	193 (1.2)	2 (0.4)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. The percentages for race ethnicity may not add to 100 percent because some students categorized themselves as "other." ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 2.2 | Average Mathematics Proficiency by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	White		Black		Hispanic		Asian / Pacific Islander		American Indian	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	69 (0.4)	276 (1.1)	16 (0.2)	236 (1.3)	10 (0.3)	245 (1.3)	2 (0.2)	287 (6.6)	1 (0.2)	254 (2.9)
Northeast	67 (2.6)	279 (3.3)	19 (1.5)	239 (3.8)	10 (1.7)	241 (3.8)!	2 (0.5)	*** (***)	1 (0.3)	*** (***)
Southeast	68 (1.8)	269 (1.2)	27 (1.8)	233 (1.7)	4 (0.7)	240 (2.8)!	1 (0.3)	*** (***)	1 (0.2)	*** (***)
Central	79 (2.0)	280 (2.0)	13 (1.9)	239 (3.5)	5 (0.8)	246 (4.2)	2 (0.5)	*** (***)	1 (0.4)	*** (***)
West	63 (1.5)	277 (2.4)	8 (1.3)	234 (3.5)	21 (1.7)	246 (1.6)	5 (0.8)	286(11.3)	2 (0.7)	*** (***)
STATES										
Alabama	61 (2.3)	264 (1.4)	32 (2.1)	231 (2.2)	4 (0.6)	220 (5.3)	1 (0.2)	*** (***)	2 (0.4)	*** (***)
Arizona	60 (2.1)	275 (1.1) >	4 (0.5)	251 (3.4)	28 (1.6)	247 (2.7)	2 (0.3)	*** (***)	6 (1.3)	251 (2.7)»
Arkansas	72 (1.4)	265 (1.0)	22 (1.3)	230 (1.9)	4 (0.4)	228 (4.1)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
California	44 (1.8)	276 (1.9)	7 (1.1)	233 (3.6)	36 (1.7)	240 (2.0)	11 (1.0)	276 (2.9)	1 (0.2)	*** (***)
Colorado	74 (1.2)	278 (1.0) >	4 (0.6)	241 (4.4)	18 (1.1)	254 (1.7) >	2 (0.3)	*** (***)	2 (0.3)	*** (***)
Connecticut	72 (1.6)	283 (0.9)»	12 (1.1)	242 (2.9)	12 (0.9)	241 (2.4)	3 (0.4)	287 (8.0)	0 (0.1)	*** (***)
Delaware	65 (0.9)	272 (1.0) >	25 (1.1)	241 (1.8)	6 (0.6)	239 (3.4)	2 (0.3)	*** (***)	2 (0.3)	*** (***)
Dist. Columbia	3 (0.2)	*** (***)	85 (0.8)	233 (0.9)	10 (0.7)	225 (3.8)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Florida	56 (2.1)	273 (1.3)»	23 (2.0)	236 (2.3)	18 (2.0)	245 (2.5)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
Georgia	59 (2.1)	270 (1.3)	35 (1.9)	241 (1.3)	4 (0.5)	233 (5.5)	2 (0.3)	*** (***)	0 (0.1)	*** (***)
Hawaii	17 (0.9)	265 (1.6)	3 (0.3)	*** (***)	11 (0.7)	238 (2.2)	66 (1.1)	259 (1.1)»	1 (0.2)	*** (***)
Idaho	88 (0.7)	277 (0.8) >	1 (0.2)	*** (***)	8 (0.6)	253 (2.3)	1 (0.2)	*** (***)	3 (0.4)	259 (4.2)
Indiana	85 (1.3)	273 (1.2)	8 (1.1)	243 (2.6)	4 (0.6)	249 (4.6)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Iowa	92 (0.7)	284 (1.0) >	2 (0.4)	*** (***)	4 (0.4)	261 (3.8)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Kentucky	87 (1.0)	264 (1.1) >	9 (1.0)	241 (2.6)	3 (0.4)	231 (4.6)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Louisiana	54 (1.7)	263 (1.7)	39 (1.5)	232 (2.2)	5 (0.5)	228 (3.5)	2 (0.4)	*** (***)	1 (0.2)	*** (***)
Maine	94 (0.5)	279 (1.0)	0 (0.1)	*** (***)	2 (0.3)	*** (***)	1 (0.2)	*** (***)	3 (0.4)	261 (4.5)
Maryland	60 (1.8)	278 (1.5)	29 (1.8)	239 (2.0)	6 (0.6)	240 (3.3)	3 (0.5)	287 (4.7)	1 (0.2)	*** (***)
Massachusetts	83 (1.1)	277 (1.1)	5 (1.0)	243 (5.0)	8 (1.5)	240 (3.4)	2 (0.4)	*** (***)	1 (0.2)	*** (***)
Michigan	73 (1.6)	276 (1.5) >	18 (1.9)	232 (1.8)	5 (0.8)	248 (4.0)	1 (0.3)	*** (***)	2 (0.3)	*** (***)
Minnesota	91 (1.0)	284 (1.0)»	2 (0.3)	*** (***)	3 (0.5)	253 (3.6) >	2 (0.3)	*** (***)	1 (0.4)	*** (***)
Mississippi	49 (1.9)	262 (1.4)	44 (1.8)	230 (1.4)	6 (0.6)	223 (3.1)	0 (0.1)	*** (***)	1 (0.2)	*** (***)
Missouri	82 (1.5)	275 (1.0)	12 (1.4)	241 (2.9)	3 (0.3)	251 (4.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Nebraska	87 (1.1)	281 (1.1)	5 (0.9)	236 (4.7)	6 (0.7)	254 (3.1)	1 (0.2)	*** (***)	2 (0.4)	*** (***)
New Hampshire	91 (1.6)	278 (0.9) >	1 (0.2)	*** (***)	3 (0.3)	258 (5.1)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
New Jersey	61 (2.5)	283 (1.4)	17 (2.4)	242 (2.7)	14 (1.5)	247 (3.5)	6 (0.7)	297 (3.3)	1 (0.2)	*** (***)
New Mexico	44 (1.5)	272 (1.2)	2 (0.4)	*** (***)	49 (1.4)	248 (1.1)	1 (0.3)	*** (***)	4 (0.7)«	249 (3.0) >
New York	61 (2.7)	279 (1.1) >	17 (2.2)	232 (4.5)	14 (2.0)	243 (4.8)	4 (0.6)	281 (6.8)	1 (0.3)	*** (***)
North Carolina	68 (1.4) >	266 (1.0) >	27 (1.3)	238 (1.7)	3 (0.3) <	238 (4.7) >	1 (0.2)	*** (***)	2 (0.4)	*** (***)
North Dakota	93 (0.8)	284 (1.2)	0 (0.1)	*** (***)	3 (0.3)	*** (***)	1 (0.2)	*** (***)	3 (0.7)	261 (4.3)!»
Ohio	80 (1.9)	274 (1.4) >	14 (1.7)	234 (2.3)	4 (0.5)	245 (4.6)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Oklahoma	75 (1.6)	272 (1.0)	8 (1.1)	238 (3.0)	6 (0.6)	252 (3.2)	2 (0.3)	*** (***)	10 (1.0)	261 (3.2)
Pennsylvania	83 (1.4)	276 (1.1) >	11 (1.6)	237 (4.6)	3 (0.7)	246 (3.9)! >	1 (0.3)	*** (***)	1 (0.3)	*** (***)
Rhode Island	81 (0.7)	271 (0.9)»	6 (0.6)	240 (2.9) >	8 (0.4)	232 (2.7)	3 (0.4)	264 (3.4)	2 (0.3)	*** (***)
South Carolina	58 (1.5)	273 (1.1)	35 (1.3)	241 (1.0)	6 (0.6)	233 (2.6)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Tennessee	75 (2.0)	266 (1.1)	21 (2.1)	234 (2.4)	3 (0.3)	227 (4.8)	0 (0.1)	*** (***)	1 (0.2)	*** (***)
Texas	48 (1.9)	279 (1.6) >	12 (1.6)	243 (2.0) >	36 (2.0)	248 (1.2)	3 (0.4)	301 (4.9)	1 (0.3)	*** (***)
Utah	90 (0.9)	276 (0.8)	1 (0.2)	*** (***)	7 (0.6)	253 (2.3)	2 (0.3)	*** (***)	2 (0.2)	*** (***)
Virginia	69 (1.9)	275 (1.1)	22 (1.6)	244 (1.9)	5 (0.6)	254 (4.0)	4 (0.5)	280 (4.0) <	1 (0.2)	*** (***)
West Virginia	91 (0.9)	260 (1.0)	4 (0.8)	243 (3.7)	3 (0.3) <	230 (4.9)	0 (0.1)	*** (***)	2 (0.3)	*** (***)
Wisconsin	86 (1.7)	282 (1.2)	7 (1.2)	246 (6.8)	4 (0.8)	246 (4.0)	1 (0.2) <	*** (***)	2 (0.6)	261 (6.0)!
Wyoming	86 (1.7)	277 (0.8) >	1 (0.2)	*** (***)	9 (0.6)	257 (2.1)	1 (0.2)	*** (***)	4 (1.6)	250 (2.4)!
TERRITORIES										
Guam	5 (0.5) <	266 (5.4)	1 (0.3)	*** (***	15 (0.9) <	218 (2.8)	76 (1.1) >	236 (1.1)	1 (0.1)	*** (***)
Virgin Islands	1 (0.4)	*** (***)	77 (1.1)	224 (1.2	21 (0.9)	213 (1.9)	0 (0.1)	*** (***)	0 (0.2)	*** (***)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 2.2 | Average Mathematics Proficiency by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	White		Black		Hispanic		Asian / Pacific Islander		American Indian	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	70 (0.5)	270 (1.5)	16 (0.3)	237 (2.8)	10 (0.4)	242 (2.8)	2 (0.5)	279 (5.4)!	2 (0.7)	244 (9.0)!
Northeast	80 (4.2)	274 (2.6)	12 (4.2)	246 (8.1)!	5 (1.2)	*** (***)	3 (1.1)	*** (***)	1 (0.3)	*** (***)
Southeast	63 (3.0)	265 (2.9)	32 (3.0)	235 (4.5)	3 (0.8)	*** (***)	1 (0.4)	*** (***)	0 (0.1)	*** (***)
Central	79 (2.6)	271 (2.4)	13 (3.2)	231 (5.2)!	5 (1.0)	*** (***)	1 (0.4)	*** (***)	1 (0.4)	*** (***)
West	63 (1.9)	269 (3.3)	7 (2.0)	245 (5.9)!	21 (1.5)	244 (3.4)	4 (1.3)	*** (***)	4 (2.3)	*** (***)
STATES										
Alabama	64 (1.9)	263 (1.0)	29 (1.8)	234 (1.6)	5 (0.6)	227 (3.7)	1 (0.3)	*** (***)	1 (0.2)	*** (***)
Arizona	59 (1.8)	271 (1.1)	3 (0.4)	245 (3.2)	29 (1.3)	242 (1.9)	2 (0.3)	*** (***)	7 (1.5)	235 (2.5)
Arkansas	72 (1.5)	265 (0.9)	22 (1.5)	232 (1.2)	4 (0.4)	230 (4.0)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
California	45 (1.8)	271 (1.5)	7 (0.8)	233 (3.4)	35 (1.4)	236 (1.6)	12 (1.1)	271 (2.8)	2 (0.4)	*** (***)
Colorado	73 (1.3)	274 (1.0)	4 (1.0)	237 (3.1)!	19 (1.6)	247 (1.4)	2 (0.3)	*** (***)	2 (0.3)	*** (***)
Connecticut	77 (1.5)	278 (0.9)	10 (1.0)	241 (2.4)	10 (0.9)	237 (2.7)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
Delaware	68 (1.0)	268 (1.0)	24 (0.9)	242 (1.8)	5 (0.5)	242 (4.9)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Dist. Columbia	3 (0.4)	*** (***)	84 (1.0)	231 (0.7)	10 (0.6)	217 (3.1)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Florida	60 (2.0)	265 (1.4)	20 (1.2)	231 (1.7)	17 (2.1)	245 (2.6)	2 (0.4)	272 (5.1)	1 (0.2)	*** (***)
Georgia	59 (1.8)	271 (1.5)	33 (1.7)	240 (1.5)	6 (0.6)	231 (3.3)	1 (0.2)	*** (***)	1 (0.1)	*** (***)
Hawaii	18 (0.8)	263 (2.0)	2 (0.3)	*** (***)	10 (0.6)	231 (2.5)	67 (1.0)	252 (1.0)	1 (0.2)	*** (***)
Idaho	90 (0.8)	274 (0.8)	0 (0.1)	*** (***)	6 (0.6)	249 (2.8)	1 (0.3)	*** (***)	2 (0.4)	252 (4.9)
Indiana	84 (1.2)	271 (1.0)	9 (1.2)	243 (2.9)	4 (0.7)	245 (3.6)	1 (0.3)	*** (***)	1 (0.3)	*** (***)
Iowa	91 (0.7)	280 (1.1)	2 (0.7)	*** (***)	4 (0.4)	256 (3.9)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Kentucky	85 (1.1)	260 (1.2)	9 (1.0)	240 (2.4)	4 (0.5)	229 (3.5)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
Louisiana	55 (2.1)	259 (1.4)	38 (1.9)	230 (1.3)	5 (0.6)	226 (4.2)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	59 (1.5)	273 (1.5)	28 (1.5)	238 (1.9)	7 (0.8)	237 (2.9)	4 (0.7)	291 (4.3)	1 (0.3)	*** (***)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	77 (1.4)	271 (1.0)	13 (1.1)	232 (1.5)	5 (0.6)	243 (3.2)	2 (0.4)	*** (***)	2 (0.5)	*** (***)
Minnesota	90 (0.9)	278 (0.9)	2 (0.5)	239 (4.7)!	3 (0.4)	239 (5.0)	3 (0.4)	270 (5.6)	2 (0.5)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	88 (0.8)	279 (1.1)	5 (0.4)	235 (5.2)	5 (0.5)	253 (4.1)	1 (0.2)	*** (***)	1 (0.2)	*** (***)
New Hampshire	94 (0.6)	274 (0.9)	1 (0.2)	*** (***)	2 (0.4)	254 (4.2)	1 (0.2)	*** (***)	2 (0.2)	*** (***)
New Jersey	66 (2.0)	279 (1.2)	15 (2.0)	242 (2.3)	13 (1.0)	244 (2.2)	5 (0.6)	296 (4.3)	1 (0.2)	*** (***)
New Mexico	40 (1.3)	272 (1.2)	2 (0.4)	*** (***)	45 (1.3)	247 (1.1)	1 (0.3)	*** (***)	11 (0.8)	238 (1.4)
New York	60 (1.9)	274 (1.1)	17 (1.6)	236 (3.1)	17 (1.7)	237 (2.9)	4 (0.8)	278 (6.9)!	1 (0.3)	*** (***)
North Carolina	62 (1.7)	262 (1.3)	30 (1.3)	233 (1.3)	5 (0.5)	218 (3.3)	1 (0.2)	*** (***)	3 (0.9)	233 (4.3)!
North Dakota	91 (1.4)	284 (1.0)	1 (0.3)	*** (***)	3 (0.4)	248 (6.0)	1 (0.4)	*** (***)	5 (1.2)	242 (2.6)!
Ohio	82 (0.9)	269 (1.0)	11 (0.8)	233 (1.7)	3 (0.4)	237 (4.4)	1 (0.3)	*** (***)	1 (0.3)	*** (***)
Oklahoma	74 (1.8)	269 (1.3)	11 (1.2)	237 (2.2)	5 (0.7)	246 (4.3)	2 (0.4)	*** (***)	9 (1.0)	255 (2.5)
Pennsylvania	81 (2.5)	272 (1.1)	12 (2.3)	239 (3.1)	5 (0.8)	229 (4.5)	1 (0.2)	*** (***)	1 (0.3)	*** (***)
Rhode Island	83 (0.8)	266 (0.7)	5 (0.5)	227 (3.1)	8 (0.5)	230 (2.4)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	47 (2.1)	273 (1.3)	13 (1.3)	236 (1.8)	36 (2.1)	245 (1.9)	2 (0.6)	*** (***)	1 (0.2)	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	68 (1.5)	272 (1.6)	23 (1.5)	242 (1.6)	5 (0.5)	243 (4.1)	4 (0.4)	295 (4.2)	1 (0.2)	*** (***)
West Virginia	90 (0.7)	258 (0.9)	3 (0.5)	235 (4.1)	4 (0.4)	232 (4.2)	1 (0.2)	*** (***)	2 (0.3)	*** (***)
Wisconsin	85 (1.2)	279 (1.1)	8 (1.1)	237 (4.2)	4 (0.3)	250 (3.8)	2 (0.3)	*** (***)	1 (0.2)	*** (***)
Wyoming	86 (0.8)	275 (0.7)	1 (0.2)	*** (***)	9 (0.6)	255 (2.2)	1 (0.2)	*** (***)	3 (0.4)	257 (3.4)
TERRITORIES										
Guam	7 (0.7)	257 (3.5)	1 (0.4)	*** (***)	19 (1.0)	210 (1.9)	72 (1.2)	235 (0.9)	1 (0.2)	*** (***)
Virgin Islands	2 (0.2)	*** (***)	77 (1.1)	221 (1.1)	20 (1.0)	209 (1.5)	0 (0.2)	*** (***)	1 (0.2)	*** (***)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE 2.3 | Achievement Levels by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	3 (0.4)	0 (0.1)	0 (0.3)	5 (2.3)	2 (1.4)	23 (1.5)	2 (0.7)	5 (1.0)	30 (5.0)	10 (3.8)
Northeast	4 (1.2)	0 (0.2)	0 (0.7)	*** (***)	*** (***)	31 (3.8)	3 (1.5)	5 (1.5)	*** (***)	*** (***)
Southeast	2 (0.6)	0 (0.1)	0 (0.4)	*** (***)	*** (***)	16 (2.1)	2 (0.9)	5 (1.9)	*** (***)	*** (***)
Central	2 (0.7)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	24 (2.4)	3 (2.0)	5 (3.3)	*** (***)	*** (***)
West	3 (1.0)	0 (0.0)	0 (0.3)	6 (3.1)	*** (***)	21 (2.9)	2 (1.4)	5 (1.5)	30 (5.5)	*** (***)
STATES										
Alabama	1 (0.3)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	16 (1.7)	1 (0.4)	3 (2.3)	*** (***)	*** (***)
Arizona	2 (0.4)	0 (0.0)	0 (0.2)	*** (***)	0 (0.2)	20 (1.2)	4 (2.5)	5 (0.9)	*** (***)	3 (1.7)
Arkansas	1 (0.3)	0 (0.0)	0 (0.0)	*** (***)	0 (0.8)	14 (1.1)	1 (0.7)	1 (1.2)	*** (***)	10 (3.8)
California	3 (0.7)	0 (0.0)	0 (0.1)	4 (1.6)	2 (2.9)	19 (1.8)	2 (1.1)	4 (0.9)	21 (3.8)	10 (6.0)
Colorado	3 (0.6)	0 (0.0)	0 (0.3)	1 (1.6)	1 (1.9)	23 (1.4)	3 (1.4)	7 (1.4)	24 (6.2)	11 (4.6)
Connecticut	5 (0.8)	0 (0.6)	1 (0.7)	*** (***)	*** (***)	32 (1.7)	3 (1.3)	8 (1.9)	*** (***)	*** (***)
Delaware	3 (0.6)	0 (0.4)	0 (0.4)	*** (***)	*** (***)	23 (1.3)	3 (1.0)	4 (3.1)	*** (***)	*** (***)
Dist. Columbia	14 (3.7)	0 (0.1)	0 (0.2)	*** (***)	*** (***)	52 (6.0)	3 (0.4)	2 (1.0)	*** (***)	*** (***)
Florida	2 (0.5)	0 (0.3)	1 (0.4)	*** (***)	*** (***)	19 (1.8)	2 (0.6)	8 (1.5)	*** (***)	*** (***)
Georgia	2 (0.7)	0 (0.2)	0 (0.3)	*** (***)	*** (***)	25 (1.6)	3 (0.8)	4 (1.6)	*** (***)	*** (***)
Hawaii	2 (1.1)	0 (0.0)	0 (0.2)	2 (0.4)	*** (***)	20 (2.3)	5 (2.3)	6 (1.4)	16 (1.3)	*** (***)
Idaho	1 (0.4)	*** (***)	0 (0.3)	*** (***)	0 (0.0)	18 (1.2)	*** (***)	5 (1.4)	*** (***)	5 (3.0)
Indiana	2 (0.4)	0 (0.2)	0 (0.0)	*** (***)	*** (***)	19 (1.3)	2 (0.8)	4 (1.6)	*** (***)	*** (***)
Iowa	3 (0.5)	0 (0.0)!	0 (0.7)	*** (***)	*** (***)	29 (1.3)	2 (2.0)!	15 (3.4)	*** (***)	*** (***)
Kentucky	2 (0.5)	0 (0.0)	0 (1.4)	*** (***)	*** (***)	14 (1.2)	4 (2.0)	4 (2.6)	*** (***)	*** (***)
Louisiana	1 (0.4)	0 (0.1)	0 (0.3)	*** (***)	*** (***)	13 (1.3)	2 (0.5)	5 (2.1)	*** (***)	*** (***)
Maine	3 (0.6)	*** (***)	1 (1.8)	*** (***)	*** (***)	29 (1.7)	*** (***)	14 (4.9)	*** (***)	*** (***)
Maryland	4 (0.6)	0 (0.1)	0 (0.7)	6 (2.6)	*** (***)	27 (1.6)	3 (0.8)	9 (3.1)	34 (5.6)	*** (***)
Massachusetts	3 (0.5)	0 (0.0)	1 (0.8)	7 (4.7)	*** (***)	28 (1.6)	2 (1.5)	9 (2.5)	30 (8.1)	*** (***)
Michigan	2 (0.6)	0 (0.4)	1 (0.9)	*** (***)	0 (0.0)	23 (1.9)	2 (1.4)	9 (2.6)	*** (***)	9 (3.1)
Minnesota	4 (0.6)	1 (0.6)	0 (0.2)	*** (***)	*** (***)	29 (1.4)	4 (1.9)	12 (2.7)	*** (***)	*** (***)
Mississippi	1 (0.3)	0 (0.0)	0 (0.7)	*** (***)	*** (***)	14 (1.4)	1 (0.4)	2 (1.5)	*** (***)	*** (***)
Missouri	2 (0.4)	0 (0.0)	1 (0.9)	*** (***)	*** (***)	23 (1.5)	1 (0.8)	11 (2.9)	*** (***)	*** (***)
Nebraska	3 (0.6)	0 (0.0)	1 (1.0)	*** (***)	*** (***)	25 (1.9)	4 (2.3)	9 (3.4)	*** (***)	*** (***)
New Hampshire	3 (0.7)	*** (***)	1 (1.2)	*** (***)	*** (***)	27 (1.7)	*** (***)	12 (3.2)	*** (***)	*** (***)
New Jersey	4 (1.0)	0 (0.1)	1 (0.5)	7 (3.5)	*** (***)	33 (2.0)	3 (1.1)	7 (1.9)	40 (4.8)	*** (***)
New Mexico	2 (0.6)	0 (0.7)	0 (0.3)	*** (***)	0 (0.0)!	19 (1.9)	4 (3.6)	5 (1.2)	*** (***)	4 (2.6)!
New York	3 (0.5)	0 (0.1)	0 (0.1)	10 (4.4)!	*** (***)	24 (1.9)	4 (1.2)	5 (1.2)	37 (6.6)!	*** (***)
North Carolina	3 (0.5)	0 (0.2)	0 (0.3)	*** (***)	0 (0.0)!	19 (1.2)	2 (0.6)	7 (2.8)	*** (***)	8 (4.0)!
North Dakota	2 (0.3)	*** (***)	0 (0.0)	*** (***)	0 (0.0)!	24 (1.2)	*** (***)	7 (3.4)	*** (***)	8 (3.4)!
Ohio	2 (0.4)	0 (0.4)	0 (0.4)	*** (***)	2 (2.4)	19 (1.3)	3 (1.3)	8 (1.9)	*** (***)	12 (4.6)
Oklahoma	2 (0.5)	0 (0.0)	0 (0.0)	*** (***)	0 (0.2)	17 (1.4)	3 (1.6)	7 (2.5)	*** (***)	7 (2.0)
Pennsylvania	3 (0.7)	0 (0.1)	1 (0.7)	*** (***)	*** (***)	27 (1.6)	2 (0.9)	8 (2.4)	*** (***)	*** (***)
Rhode Island	2 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	17 (1.4)	2 (1.7)	2 (0.9)	1 (1.5)	*** (***)
South Carolina	2 (0.5)	0 (0.1)	0 (0.4)	*** (***)	*** (***)	22 (1.7)	2 (0.5)	7 (2.0)	*** (***)	*** (***)
Tennessee	1 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	13 (1.2)	1 (0.6)	3 (2.4)	*** (***)	*** (***)
Texas	3 (0.9)	0 (0.3)	0 (0.4)	6 (3.1)	*** (***)	24 (2.0)	3 (1.1)	8 (1.3)	34 (9.5)	*** (***)
Utah	2 (0.4)	*** (***)	0 (0.0)	*** (***)	*** (***)	21 (1.1)	*** (***)	8 (2.1)	*** (***)	*** (***)
Virginia	4 (0.9)	0 (0.1)	0 (0.0)	7 (4.1)	*** (***)	25 (2.0)	3 (0.9)	10 (3.5)	28 (7.7)	*** (***)
West Virginia	1 (0.3)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	14 (1.0)	3 (2.7)	6 (3.1)	*** (***)	*** (***)
Wisconsin	4 (0.5)	0 (0.3)	1 (0.6)	*** (***)	0 (0.0)!	30 (1.6)	2 (1.0)	10 (2.7)	*** (***)	6 (2.5)!
Wyoming	2 (0.4)	*** (***)	0 (0.2)	*** (***)	1 (1.2)!	21 (1.4)	*** (***)	9 (1.6)	*** (***)	9 (3.4)!
TERRITORY										
Guam	1 (0.8)	1 (0.8)	0 (0.3)	0 (0.2)	*** (***)	11 (1.9)	3 (2.9)	2 (0.8)	5 (0.7)	*** (***)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 2.3 | Achievement Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	71 (1.4)	24 (1.9)	35 (2.3)	77 (3.5)	45 (4.9)	29 (1.4)	76 (1.9)	65 (2.3)	23 (3.5)	55 (4.9)
Northeast	76 (3.4)	29 (4.0)	33 (5.9)	*** (***)	*** (***)	24 (3.4)	71 (4.0)	67 (5.9)	*** (***)	*** (***)
Southeast	62 (2.9)	22 (2.5)	35 (6.3)	*** (***)	*** (***)	38 (2.9)	78 (2.5)	65 (6.3)	*** (***)	*** (***)
Central	74 (2.6)	23 (5.9)	34 (5.5)	*** (***)	*** (***)	26 (2.6)	77 (5.9)	66 (5.5)	*** (***)	*** (***)
West	70 (2.5)	22 (6.3)	35 (3.2)	75 (4.1)	*** (***)	30 (2.5)	78 (6.3)	65 (3.2)	25 (4.1)	*** (***)
STATES										
Alabama	59 (2.4)	18 (1.4)	28 (5.3)	*** (***)	*** (***)	41 (2.4)	82 (1.4)	72 (5.3)	*** (***)	*** (***)
Arizona	70 (1.6)	31 (6.4)	38 (2.0)	*** (***)	27 (3.7)	30 (1.6)	69 (6.4)	62 (2.0)	*** (***)	73 (3.7)
Arkansas	59 (1.4)	20 (2.8)	30 (4.2)	*** (***)	54 (6.3)	41 (1.4)	80 (2.8)	70 (4.2)	*** (***)	46 (6.3)
California	63 (2.7)	23 (2.6)	28 (2.4)	65 (3.3)	50 (9.3)	37 (2.7)	77 (2.6)	72 (2.4)	35 (3.3)	50 (9.3)
Colorado	71 (1.5)	34 (4.8)	44 (2.5)	64 (6.3)	53 (7.0)	29 (1.5)	66 (4.8)	56 (2.5)	36 (6.3)	47 (7.0)
Connecticut	80 (1.1)	26 (3.1)	40 (4.3)	*** (***)	*** (***)	20 (1.1)	75 (3.1)	60 (4.3)	*** (***)	*** (***)
Delaware	69 (1.5)	28 (2.9)	31 (3.4)	*** (***)	*** (***)	31 (1.5)	72 (2.9)	69 (3.4)	*** (***)	*** (***)
Dist. Columbia	80 (4.5)	22 (1.1)	16 (2.2)	*** (***)	*** (***)	20 (4.5)	78 (1.1)	84 (2.2)	*** (***)	*** (***)
Florida	68 (1.8)	23 (2.7)	43 (3.5)	*** (***)	*** (***)	32 (1.8)	77 (2.7)	57 (3.5)	*** (***)	*** (***)
Georgia	74 (1.7)	29 (2.2)	32 (4.6)	*** (***)	*** (***)	26 (1.7)	71 (2.2)	68 (4.6)	*** (***)	*** (***)
Hawaii	61 (2.6)	34 (6.4)	35 (3.6)	56 (2.2)	*** (***)	39 (2.6)	66 (6.4)	65 (3.6)	44 (2.2)	*** (***)
Idaho	68 (1.8)	*** (***)	38 (4.5)	*** (***)	56 (6.7)	32 (1.8)	*** (***)	62 (4.5)	*** (***)	44 (6.7)
Indiana	67 (1.3)	25 (4.1)	46 (4.4)	*** (***)	*** (***)	33 (1.3)	75 (4.1)	54 (4.4)	*** (***)	*** (***)
Iowa	76 (1.3)	30 (6.3)!	63 (5.8)	*** (***)	*** (***)	24 (1.3)	70 (6.3)!	37 (5.8)	*** (***)	*** (***)
Kentucky	56 (1.5)	33 (3.6)	31 (4.6)	*** (***)	*** (***)	44 (1.5)	67 (3.6)	69 (4.6)	*** (***)	*** (***)
Louisiana	59 (2.5)	19 (1.8)	35 (6.3)	*** (***)	*** (***)	41 (2.5)	81 (1.8)	65 (6.3)	*** (***)	*** (***)
Maine	77 (1.3)	*** (***)	64 (5.8)	*** (***)	*** (***)	23 (1.3)	*** (***)	36 (5.8)	*** (***)	*** (***)
Maryland	71 (1.6)	28 (2.0)	47 (4.6)	79 (4.4)	*** (***)	29 (1.6)	72 (2.0)	53 (4.6)	21 (4.4)	*** (***)
Massachusetts	77 (1.3)	26 (5.0)	42 (4.2)	65 (8.9)	*** (***)	23 (1.3)	74 (5.0)	58 (4.2)	35 (8.9)	*** (***)
Michigan	72 (2.0)	20 (3.7)	44 (3.8)	*** (***)	53 (7.5)	28 (2.0)	80 (3.7)	56 (3.8)	*** (***)	47 (7.5)
Minnesota	76 (1.4)	29 (7.0)	45 (4.8)	*** (***)	*** (***)	24 (1.4)	71 (7.0)	55 (4.8)	*** (***)	*** (***)
Mississippi	60 (1.7)	21 (1.7)	21 (3.8)	*** (***)	*** (***)	40 (1.7)	79 (1.7)	79 (3.8)	*** (***)	*** (***)
Missouri	72 (1.5)	29 (3.3)	45 (4.5)	*** (***)	*** (***)	28 (1.5)	71 (3.3)	55 (4.5)	*** (***)	*** (***)
Nebraska	74 (1.7)	19 (3.5)	49 (6.2)	*** (***)	*** (***)	26 (1.7)	81 (3.5)	51 (6.2)	*** (***)	*** (***)
New Hampshire	76 (1.5)	*** (***)	57 (6.1)	*** (***)	*** (***)	24 (1.5)	*** (***)	43 (6.1)	*** (***)	*** (***)
New Jersey	83 (1.6)	31 (3.9)	44 (4.6)	83 (5.5)	*** (***)	17 (1.6)	69 (3.9)	56 (4.6)	17 (5.5)	*** (***)
New Mexico	68 (2.4)	37 (7.9)	38 (2.5)	*** (***)	43 (8.7)!	32 (2.4)	63 (7.9)	62 (2.5)	*** (***)	57 (8.7)!
New York	73 (2.1)	33 (4.2)	35 (2.8)	74 (5.2)!	*** (***)	27 (2.1)	67 (4.2)	65 (2.8)	26 (5.2)!	*** (***)
North Carolina	67 (1.6)	25 (2.4)	37 (5.9)	*** (***)	42 (9.3)!	33 (1.6)	75 (2.4)	63 (5.9)	*** (***)	58 (9.3)!
North Dakota	76 (1.2)	*** (***)	52 (7.7)	*** (***)	50 (6.9)!	24 (1.2)	*** (***)	48 (7.7)	*** (***)	50 (6.9)!
Ohio	64 (1.6)	25 (3.5)	47 (4.8)	*** (***)	61 (7.0)	36 (1.6)	75 (3.5)	53 (4.8)	*** (***)	39 (7.0)
Oklahoma	68 (1.7)	31 (3.9)	47 (4.4)	*** (***)	49 (4.3)	32 (1.7)	69 (3.9)	53 (4.4)	*** (***)	51 (4.3)
Pennsylvania	76 (1.7)	25 (2.8)	39 (3.7)	*** (***)	*** (***)	24 (1.7)	75 (2.8)	61 (3.7)	*** (***)	*** (***)
Rhode Island	65 (2.1)	22 (4.3)	24 (3.6)	26 (4.9)	*** (***)	35 (2.1)	78 (4.3)	76 (3.6)	74 (4.9)	*** (***)
South Carolina	68 (1.6)	24 (1.9)	35 (4.4)	*** (***)	*** (***)	32 (1.6)	76 (1.9)	65 (4.4)	*** (***)	*** (***)
Tennessee	60 (2.1)	23 (2.7)	23 (5.9)	*** (***)	*** (***)	40 (2.1)	77 (2.7)	77 (5.9)	*** (***)	*** (***)
Texas	73 (2.2)	31 (4.1)	45 (2.8)	79 (4.7)	*** (***)	27 (2.2)	69 (4.1)	55 (2.8)	21 (4.7)	*** (***)
Utah	70 (1.6)	*** (***)	48 (3.6)	*** (***)	*** (***)	30 (1.6)	*** (***)	52 (3.6)	*** (***)	*** (***)
Virginia	72 (1.9)	27 (2.5)	50 (5.5)	84 (4.6)	*** (***)	28 (1.9)	73 (2.5)	50 (5.5)	16 (4.6)	*** (***)
West Virginia	55 (1.6)	41 (6.9)	40 (4.6)	*** (***)	*** (***)	45 (1.6)	59 (6.9)	60 (4.6)	*** (***)	*** (***)
Wisconsin	79 (1.2)	27 (3.7)	53 (4.6)	*** (***)	42 (8.4)!	21 (1.2)	73 (3.7)	47 (4.6)	*** (***)	58 (8.4)!
Wyoming	73 (1.4)	*** (***)	56 (3.6)	*** (***)	51 (6.3)!	27 (1.4)	*** (***)	44 (3.6)	*** (***)	49 (6.3)!
TERRITORY										
Guam	45 (3.7)	24 (6.2)	17 (2.4)	29 (1.5)	*** (***)	55 (3.7)	76 (6.2)	83 (2.4)	71 (1.5)	*** (***)

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TABLE 2.3 | Achievement Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	4 (0.6)	0 (0.4)	1 (0.3)	14 (5.1)	0 (0.0)	30 (1.4)	3 (0.8)	7 (0.9)	42 (8.6)	9 (3.6)
Northeast	7 (1.7)	1 (1.7)	1 (0.6)!	*** (***)	*** (***)	34 (3.8)	4 (2.7)	7 (2.5)!	*** (***)	*** (***
Southeast	2 (0.6)	0 (0.1)	2 (1.9)!	*** (***)	*** (***)	22 (1.3)	2 (0.8)	7 (2.9)!	*** (***)	*** (***)
Central	4 (0.9)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	34 (3.2)	4 (1.8)	4 (1.9)	*** (***)	*** (***)
West	4 (1.3)	0 (0.2)	0 (0.5)	17 (8.3)	*** (***)	32 (2.6)	1 (0.8)	8 (1.1)	42(14.1)	*** (***)
STATES										
Alabama	2 (0.5)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	19 (1.5)	1 (0.4)	1 (1.4)	*** (***)	*** (***)
Arizona	3 (0.6)	0 (1.9)	0 (0.3)	*** (***)	0 (0.0)	26 (1.8)	6 (2.9)	7 (1.4)	*** (***)	8 (2.4)
Arkansas	1 (0.4)	0 (0.1)	1 (0.8)	*** (***)	*** (***)	17 (1.1)	2 (0.9)	5 (1.6)	*** (***)	*** (***)
California	4 (1.4)	0 (0.2)	0 (0.3)	6 (1.9)	*** (***)	30 (2.2)	3 (1.4)	6 (1.1)	33 (3.7)	*** (***)
Colorado	3 (0.6)	0 (0.0)	0 (0.3)	*** (***)	*** (***)	31 (1.5)	6 (2.8)	10 (1.3)	*** (***)	*** (***)
Connecticut	5 (0.8)	0 (0.2)	0 (0.3)	13 (5.5)	*** (***)	38 (1.3) >	5 (1.3)	6 (1.4)	48 (9.2)	*** (***)
Delaware	3 (0.6)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	25 (1.5)	4 (1.2)	5 (2.8)	*** (***)	*** (***)
Dist. Columbia	*** (***)	0 (0.0)	0 (0.7)	*** (***)	*** (***)	*** (***)	4 (0.7)	7 (3.4)	*** (***)	*** (***)
Florida	3 (0.6)	0 (0.3)	0 (0.2)	*** (***)	*** (***)	26 (1.8) >	4 (0.9)	7 (1.4)	*** (***)	*** (***)
Georgia	2 (0.5)	0 (0.2)	0 (0.0)	*** (***)	*** (***)	23 (1.6)	4 (0.9)	5 (2.7)	*** (***)	*** (***)
Hawaii	2 (1.0)	*** (***)	1 (0.6)	2 (0.4)	*** (***)	22 (2.4)	*** (***)	5 (1.4)	18 (1.0)	*** (***)
Idaho	3 (0.4)	*** (***)	0 (0.2)	*** (***)	0 (0.8)	29 (1.2)	*** (***)	9 (2.2)	*** (***)	13 (4.8)
Indiana	3 (0.5)	0 (0.6)	2 (1.5)	*** (***)	*** (***)	27 (1.5)	5 (1.9)	11 (3.8)	*** (***)	*** (***)
Iowa	5 (0.7)	*** (***)	1 (0.6)	*** (***)	*** (***)	39 (1.4) >	*** (***)	15 (3.4)	*** (***)	*** (***)
Kentucky	2 (0.3)	0 (0.2)	0 (0.0)	*** (***)	*** (***)	18 (1.2)	5 (1.7)	5 (3.0)	*** (***)	*** (***)
Louisiana	1 (0.3)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	16 (1.7)	2 (0.6)	2 (1.5)	*** (***)	*** (***)
Maine	4 (0.6)	*** (***)	*** (***)	*** (***)	1 (2.6)	32 (2.0)	*** (***)	*** (***)	*** (***)	11 (4.9)
Maryland	6 (0.9)	0 (0.1)	1 (0.6)	9 (3.4)	*** (***)	34 (1.8) >	4 (1.4)	6 (2.1)	47 (5.8)	*** (***)
Massachusetts	4 (0.6)	1 (0.4)	0 (0.2)	*** (***)	*** (***)	31 (1.6)	8 (2.7)	5 (1.8)	*** (***)	*** (***)
Michigan	3 (0.5)	0 (0.3)	1 (0.9)	*** (***)	*** (***)	29 (2.0)	2 (0.7)	11 (3.5)	*** (***)	*** (***)
Minnesota	6 (0.7)	*** (***)	0 (0.0)	*** (***)	*** (***)	39 (1.2) »	*** (***)	8 (2.8)	*** (***)	*** (***)
Mississippi	1 (0.3)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	16 (1.4)	1 (0.5)	1 (0.9)	*** (***)	*** (***)
Missouri	3 (0.4)	0 (0.6)	1 (1.8)	*** (***)	*** (***)	27 (1.4)	4 (1.3)	11 (3.6)	*** (***)	*** (***)
Nebraska	4 (0.6)	0 (0.4)	0 (0.6)	*** (***)	*** (***)	35 (2.0)	2 (1.3)	12 (3.4)	*** (***)	*** (***)
New Hampshire	3 (0.5)	*** (***)	1 (1.4)	*** (***)	*** (***)	31 (1.4) >	*** (***)	13 (5.6)	*** (***)	*** (***)
New Jersey	5 (0.9)	0 (0.3)	1 (0.6)	13 (3.2)	*** (***)	36 (2.0)	5 (1.4)	7 (1.9)	58 (6.0)	*** (***)
New Mexico	2 (0.6)	*** (***)	0 (0.1)	*** (***)	0 (0.0)	23 (1.8)	*** (***)	6 (0.8)	*** (***)	2 (1.7)
New York	5 (0.7)	0 (0.6)	1 (0.6)	12 (4.0)	*** (***)	32 (2.0)	4 (1.6)	8 (2.1)	36 (7.3)	*** (***)
North Carolina	2 (0.4)	0 (0.1)	0 (0.6)	*** (***)	*** (***)	20 (1.2)	4 (0.8)	7 (4.2)	*** (***)	*** (***)
North Dakota	4 (0.6)	*** (***)	*** (***)	*** (***)	0 (0.0)	37 (1.7)	*** (***)	*** (***)	*** (***)	7 (5.4)
Ohio	3 (0.6)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	26 (1.6) >	4 (1.0)	7 (2.6)	*** (***)	*** (***)
Oklahoma	2 (0.4)	0 (0.0)	1 (1.1)	*** (***)	1 (1.0)	24 (1.2)	3 (1.1)	11 (3.6)	*** (***)	16 (3.1)
Pennsylvania	4 (0.7)	0 (0.6)	0 (1.4)	*** (***)	*** (***)	29 (1.4)	6 (4.1)	8 (3.9)	*** (***)	*** (***)
Rhode Island	2 (0.3)	0 (0.0)	0 (0.2)	1 (2.4)	*** (***)	23 (1.5)	4 (3.3)	3 (1.4)	16 (5.2)	*** (***)
South Carolina	3 (0.8)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	27 (1.7)	4 (0.9)	2 (1.2)	*** (***)	*** (***)
Tennessee	2 (0.5)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	18 (1.4)	3 (1.0)	2 (1.8)	*** (***)	*** (***)
Texas	5 (1.0)	0 (0.3)	1 (0.4)	24 (6.8)	*** (***)	32 (2.2)	7 (1.5)	8 (1.0)	61 (6.3)	*** (***)
Utah	3 (0.5)	*** (***)	1 (0.8)	*** (***)	*** (***)	29 (1.2)	*** (***)	9 (2.1)	*** (***)	*** (***)
Virginia	4 (0.8)	0 (0.4)	1 (1.0)	4 (2.4)	*** (***)	28 (1.4)	6 (1.3)	13 (4.1)	37 (5.9)	*** (***)
West Virginia	1 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	13 (1.0)	5 (2.4)	2 (1.5)	*** (***)	*** (***)
Wisconsin	4 (0.7)	0 (0.2)	0 (0.0)	*** (***)	0 (0.0)	36 (1.4)	10 (5.2)	6 (2.2)	*** (***)	12 (3.8)
Wyoming	3 (0.5)	*** (***)	1 (0.7)	*** (***)	0 (0.0)	28 (1.1)	*** (***)	11 (2.5)	*** (***)	2 (1.6)
TERRITORIES										
Guam	2 (2.0)	*** (***)	0 (0.0)	1 (0.3)	*** (***)	23 (8.1)	*** (***)	4 (1.4)	7 (0.7)	*** (***)
Virgin Islands	*** (***)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	*** (***)	1 (0.4)	0 (0.1)	*** (***)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 2.3 | **Achievement Levels by Race/Ethnicity (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992									
	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	73 (1.4)	26 (2.2)	37 (2.1)	78 (4.8)	46 (4.9)	27 (1.4)	74 (2.2)	63 (2.1)	22 (4.8)	54 (4.9)
Northeast	72 (3.9)	28 (5.3)	33 (5.5)!	*** (***)	*** (***)	28 (3.9)	72 (5.3)	67 (5.5)!	*** (***)	*** (***)
Southeast	66 (1.7)	23 (2.3)	29 (6.7)!	*** (***)	*** (***)	34 (1.7)	77 (2.3)	71 (6.7)!	*** (***)	*** (***)
Central	78 (2.5)	31 (5.6)	39 (8.9)	*** (***)	*** (***)	22 (2.5)	69 (5.6)	61 (8.9)	*** (***)	*** (***)
West	74 (3.4)	26 (5.6)	39 (2.4)	75 (8.3)	*** (***)	26 (3.4)	74 (5.6)	61 (2.4)	25 (8.3)	*** (***)
STATES										
Alabama	59 (2.1)	19 (2.1)	15 (4.6)	*** (***)	*** (***)	41 (2.1)	81 (2.1)	85 (4.6)	*** (***)	*** (***)
Arizona	74 (1.7)	42 (7.8)	40 (3.6)	*** (***)	47 (4.2) »	26 (1.7)	58 (7.8)	60 (3.6)	*** (***)	53 (4.2) «
Arkansas	61 (1.8)	18 (2.2)	23 (4.7)	*** (***)	*** (***)	39 (1.8)	82 (2.2)	77 (4.7)	*** (***)	*** (***)
California	73 (2.1)	26 (5.0)	34 (2.2)	69 (3.5)	*** (***)	27 (2.1)	74 (5.0)	66 (2.2)	31 (3.5)	*** (***)
Colorado	77 (1.2)	33 (5.8)	48 (2.6)	*** (***)	*** (***)	23 (1.2)	67 (5.8)	52 (2.6)	*** (***)	*** (***)
Connecticut	81 (1.2) >	32 (4.8)	32 (3.1)	78 (7.4)	*** (***)	19 (1.2) <	68 (4.8)	68 (3.1)	22 (7.4)	*** (***)
Delaware	69 (1.5)	31 (2.7)	33 (3.7)	*** (***)	*** (***)	31 (1.5)	69 (2.7)	67 (3.7)	*** (***)	*** (***)
Dist. Columbia	*** (***)	24 (1.4) >	22 (3.8)	*** (***)	*** (***)	*** (***)	76 (1.4) <	78 (3.8)	*** (***)	*** (***)
Florida	70 (1.8) >	27 (2.7)	40 (4.3)	*** (***)	*** (***)	30 (1.8) <	73 (2.7)	60 (4.3)	*** (***)	*** (***)
Georgia	69 (1.8)	29 (2.1)	27 (8.6)	*** (***)	*** (***)	31 (1.8)	71 (2.1)	73 (8.6)	*** (***)	*** (***)
Hawaii	62 (2.4)	*** (***)	34 (3.5)	53 (1.6) >	*** (***)	38 (2.4)	*** (***)	66 (3.5)	47 (1.6) <	*** (***)
Idaho	76 (1.1)	*** (***)	46 (4.5)	*** (***)	51 (6.8)	24 (1.1)	*** (***)	54 (4.5)	*** (***)	49 (6.8)
Indiana	70 (1.6)	34 (3.9)	46 (8.0)	*** (***)	*** (***)	30 (1.6)	66 (3.9)	54 (8.0)	*** (***)	*** (***)
Iowa	83 (1.3) >	*** (***)	53 (5.7)	*** (***)	*** (***)	17 (1.3) <	*** (***)	47 (5.7)	*** (***)	*** (***)
Kentucky	61 (1.3) >	30 (3.9)	26 (6.2)	*** (***)	*** (***)	39 (1.3) <	70 (3.9)	74 (6.2)	*** (***)	*** (***)
Louisiana	59 (2.3)	22 (2.2)	21 (3.8)	*** (***)	*** (***)	41 (2.3)	78 (2.2)	79 (3.8)	*** (***)	*** (***)
Maine	79 (1.2)	*** (***)	*** (***)	*** (***)	60 (8.0)	21 (1.2)	*** (***)	*** (***)	*** (***)	40 (8.0)
Maryland	74 (1.7)	30 (2.5)	33 (4.1)	80 (5.2)	*** (***)	26 (1.7)	70 (2.5)	67 (4.1)	20 (5.2)	*** (***)
Massachusetts	74 (1.6)	35 (5.3)	30 (4.5)	*** (***)	*** (***)	26 (1.6)	65 (5.3)	70 (4.5)	*** (***)	*** (***)
Michigan	75 (1.6)	22 (2.8)	44 (5.7)	*** (***)	*** (***)	25 (1.6)	78 (2.8)	56 (5.7)	*** (***)	*** (***)
Minnesota	81 (1.2)	*** (***)	48 (6.7)	*** (***)	*** (***)	19 (1.2)	*** (***)	52 (6.7)	*** (***)	*** (***)
Mississippi	59 (1.9)	19 (1.4)	12 (3.2)	*** (***)	*** (***)	41 (1.9)	81 (1.4)	88 (3.2)	*** (***)	*** (***)
Missouri	75 (1.4)	30 (3.1)	38 (6.4)	*** (***)	*** (***)	25 (1.4)	70 (3.1)	62 (6.4)	*** (***)	*** (***)
Nebraska	81 (1.2)	25 (8.1)	47 (5.9)	*** (***)	*** (***)	19 (1.2)	75 (8.1)	53 (5.9)	*** (***)	*** (***)
New Hampshire	78 (1.0) >	*** (***)	56 (7.1)	*** (***)	*** (***)	22 (1.0) <	*** (***)	44 (7.1)	*** (***)	*** (***)
New Jersey	82 (1.3)	32 (3.8)	41 (4.3)	89 (3.1)	*** (***)	18 (1.3)	68 (3.8)	59 (4.3)	11 (3.1)	*** (***)
New Mexico	72 (1.6)	*** (***)	40 (1.8)	*** (***)	41 (5.2)	28 (1.6)	*** (***)	60 (1.8)	*** (***)	59 (5.2)
New York	78 (1.4)	25 (5.2)	38 (4.9)	74 (7.5)	*** (***)	22 (1.4)	75 (5.2)	62 (4.9)	26 (7.5)	*** (***)
North Carolina	63 (1.6)	29 (2.8)	28 (6.1)	*** (***)	*** (***)	37 (1.6)	71 (2.8)	72 (6.1)	*** (***)	*** (***)
North Dakota	84 (1.3)	*** (***)	*** (***)	*** (***)	57 (11.7)!	16 (1.3)	*** (***)	*** (***)	*** (***)	43 (11.7)!
Ohio	72 (2.0)	24 (3.0)	38 (5.6)	*** (***)	*** (***)	28 (2.0)	76 (3.0)	62 (5.6)	*** (***)	*** (***)
Oklahoma	72 (2.2)	28 (5.2)	46 (5.4)	*** (***)	55 (4.9)	28 (2.2)	72 (5.2)	54 (5.4)	*** (***)	45 (4.9)
Pennsylvania	73 (1.4)	28 (5.0)	38 (5.6)!	*** (***)	*** (***)	27 (1.4)	72 (5.0)	62 (5.6)!	*** (***)	*** (***)
Rhode Island	69 (1.4) »	32 (4.9)	22 (4.3)	64 (6.2)	*** (***)	31 (1.4) «	68 (4.9)	78 (4.3)	36 (6.2)	*** (***)
South Carolina	70 (1.2)	30 (1.6)	21 (4.0)	*** (***)	*** (***)	30 (1.2)	70 (1.6)	79 (4.0)	*** (***)	*** (***)
Tennessee	62 (1.5)	21 (3.1)	23 (5.8)	*** (***)	*** (***)	38 (1.5)	79 (3.1)	77 (5.8)	*** (***)	*** (***)
Texas	76 (1.8)	33 (3.0)	40 (1.9)	87 (4.0)	*** (***)	24 (1.8)	67 (3.0)	60 (1.9)	13 (4.0)	*** (***)
Utah	75 (1.3)	*** (***)	47 (3.9)	*** (***)	*** (***)	25 (1.3)	*** (***)	53 (3.9)	*** (***)	*** (***)
Virginia	71 (1.6)	35 (3.3)	50 (4.4)	76 (4.6)	*** (***)	29 (1.6)	65 (3.3)	50 (4.4)	24 (4.6)	*** (***)
West Virginia	55 (1.5)	31 (6.5)	19 (6.3)	*** (***)	*** (***)	45 (1.5)	69 (6.5)	81 (6.3)	*** (***)	*** (***)
Wisconsin	81 (1.5)	38 (9.2)	43 (6.7)	*** (***)	62 (11.8)!	19 (1.5)	62 (9.2)	57 (6.7)	*** (***)	38 (11.8)!
Wyoming	77 (1.1)	*** (***)	53 (4.1)	*** (***)	39 (5.3)!	23 (1.1)	*** (***)	47 (4.1)	*** (***)	61 (5.3)!
TERRITORIES										
Guam	64 (6.1)	*** (***)	18 (2.9) >	30 (1.5)	*** (***)	36 (6.1)	*** (***)	82 (2.9) <	70 (1.5)	*** (***)
Virgin Islands	*** (***)	14 (1.5)	6 (1.7)	*** (***)	*** (***)	*** (***)	86 (1.5)	94 (1.7)	*** (***)	*** (***)

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TABLE 2.3 | Achievement Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	3 (0.6)	0 (0.3)	0 (0.2)	6 (2.7)!	0 (0.0)!	24 (1.6)	6 (1.3)	6 (1.6)	39 (6.3)!	8 (8.2)!
Northeast	4 (1.2)	0 (1.1)!	*** (***)	*** (***)	*** (***)	28 (2.9)	10 (6.6)!	*** (***)	*** (***)	*** (***)
Southeast	2 (0.9)	0 (0.3)	*** (***)	*** (***)	*** (***)	20 (3.6)	5 (1.7)	*** (***)	*** (***)	*** (***)
Central	2 (0.8)	0 (0.0)!	*** (***)	*** (***)	*** (***)	24 (2.3)	2 (1.8)!	*** (***)	*** (***)	*** (***)
West	4 (1.0)	0 (0.0)!	1 (0.3)	*** (***)	*** (***)	23 (3.5)	13 (4.7)!	7 (2.1)	*** (***)	*** (***)
STATES										
Alabama	2 (0.3)	0 (0.2)	1 (0.0)	*** (***)	*** (***)	16 (1.1)	3 (0.7)	4 (1.8)	*** (***)	*** (***)
Arizona	2 (0.6)	0 (0.0)	0 (0.3)	*** (***)	0 (0.0)!	23 (1.5)	6 (3.2)	5 (1.0)	*** (***)	1 (1.0)!
Arkansas	1 (0.3)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	16 (1.2)	1 (0.6)	4 (2.8)	*** (***)	*** (***)
California	3 (0.6)	0 (0.0)	0 (0.1)	4 (1.3)	*** (***)	24 (2.1)	3 (1.8)	4 (0.9)	27 (3.3)	*** (***)
Colorado	3 (0.6)	0 (0.0)!	0 (0.2)	*** (***)	*** (***)	27 (1.4)	2 (1.7)!	6 (1.5)	*** (***)	*** (***)
Connecticut	5 (0.5)	0 (0.2)	1 (0.4)	*** (***)	*** (***)	31 (1.3)	5 (2.0)	5 (2.2)	*** (***)	*** (***)
Delaware	3 (0.7)	0 (0.2)	0 (0.4)	*** (***)	*** (***)	24 (1.2)	6 (1.2)	8 (3.5)	*** (***)	*** (***)
Dist. Columbia	*** (***)	0 (0.1)	0 (0.3)	*** (***)	*** (***)	*** (***)	2 (0.5)	2 (1.2)	*** (***)	*** (***)
Florida	2 (0.5)	0 (0.1)	1 (0.5)	3 (4.7)	*** (***)	19 (1.5)	3 (0.9)	10 (1.5)	32 (6.9)	*** (***)
Georgia	4 (0.8)	0 (0.2)	0 (0.6)	*** (***)	*** (***)	25 (1.8)	5 (0.8)	5 (2.2)	*** (***)	*** (***)
Hawaii	2 (0.9)	*** (***)	0 (0.4)	2 (0.4)	*** (***)	20 (2.7)	*** (***)	5 (1.6)	15 (0.9)	*** (***)
Idaho	2 (0.4)	*** (***)	0 (0.9)	*** (***)	0 (0.4)	25 (1.6)	*** (***)	7 (2.7)	*** (***)	8 (4.9)
Indiana	3 (0.7)	1 (0.5)	1 (1.2)	*** (***)	*** (***)	23 (1.2)	3 (1.4)	10 (2.8)	*** (***)	*** (***)
Iowa	4 (0.5)	*** (***)	1 (0.9)	*** (***)	*** (***)	32 (1.7)	*** (***)	11 (3.6)	*** (***)	*** (***)
Kentucky	1 (0.3)	0 (0.2)	0 (0.0)	*** (***)	*** (***)	15 (1.1)	3 (1.5)	1 (1.2)	*** (***)	*** (***)
Louisiana	1 (0.3)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	12 (1.6)	2 (0.5)	3 (1.6)	*** (***)	*** (***)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	4 (0.8)	0 (0.2)	1 (0.8)	9 (2.9)	*** (***)	27 (1.6)	5 (1.1)	8 (1.8)	51 (6.1)	*** (***)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	3 (0.5)	0 (0.0)	1 (0.7)	*** (***)	*** (***)	24 (1.5)	1 (0.9)	6 (2.7)	*** (***)	*** (***)
Minnesota	4 (0.5)	1 (1.0)!	0 (0.0)	8 (4.2)	*** (***)	30 (1.3)	10 (3.4)!	6 (2.6)	23 (5.4)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	4 (0.7)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	33 (1.5)	4 (3.4)	6 (2.9)	*** (***)	*** (***)
New Hampshire	3 (0.5)	*** (***)	0 (0.0)	*** (***)	*** (***)	26 (1.2)	*** (***)	11 (4.6)	*** (***)	*** (***)
New Jersey	5 (0.7)	0 (0.4)	1 (0.9)	13 (3.4)	*** (***)	31 (1.9)	6 (1.4)	7 (1.7)	56 (6.4)	*** (***)
New Mexico	3 (0.7)	*** (***)	0 (0.2)	*** (***)	0 (0.3)	23 (2.0)	*** (***)	5 (0.8)	*** (***)	3 (1.0)
New York	4 (0.6)	0 (0.2)	1 (0.5)	10 (3.5)!	*** (***)	26 (1.5)	4 (1.1)	6 (1.9)	38 (7.2)!	*** (***)
North Carolina	1 (0.5)	0 (0.1)	0 (0.4)	*** (***)	0 (0.5)!	16 (1.2)	3 (0.9)	1 (1.0)	*** (***)	3 (2.1)!
North Dakota	4 (0.7)	*** (***)	2 (4.7)	*** (***)	0 (0.0)!	36 (2.0)	*** (***)	8 (4.5)	*** (***)	4 (2.6)
Ohio	2 (0.4)	0 (0.2)	0 (0.0)	*** (***)	*** (***)	21 (1.2)	2 (1.2)	6 (3.0)	*** (***)	*** (***)
Oklahoma	2 (0.6)	0 (0.0)	0 (0.7)	*** (***)	1 (0.5)	20 (1.5)	2 (1.1)	6 (2.5)	*** (***)	8 (2.3)
Pennsylvania	2 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	25 (1.3)	3 (2.5)	4 (2.0)	*** (***)	*** (***)
Rhode Island	2 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	21 (1.2)	2 (1.4)	2 (0.9)	*** (***)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	3 (0.7)	0 (0.2)	0 (0.3)	*** (***)	*** (***)	26 (1.8)	3 (1.0)	6 (0.9)	*** (***)	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	5 (0.9)	0 (0.3)	1 (1.0)	18 (4.3)	*** (***)	25 (2.0)	5 (1.1)	10 (3.7)	48 (4.9)	*** (***)
West Virginia	1 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	13 (0.9)	4 (3.3)	5 (2.7)	*** (***)	*** (***)
Wisconsin	4 (0.5)	0 (0.0)	1 (0.8)	*** (***)	*** (***)	32 (1.6)	4 (2.1)	8 (2.7)	*** (***)	*** (***)
Wyoming	2 (0.4)	*** (***)	0 (0.2)	*** (***)	0 (0.3)	26 (1.1)	*** (***)	10 (2.7)	*** (***)	7 (2.5)
TERRITORIES										
Guam	1 (1.5)	*** (***)	0 (0.0)	1 (0.3)	*** (***)	13 (3.2)	*** (***)	1 (0.8)	6 (0.7)	*** (***)
Virgin Islands	*** (***)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	*** (***)	1 (0.5)	0 (0.3)	*** (***)	*** (***)

(xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.3 | Achievement Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	67 (1.6)	27 (3.1)	36 (3.1)	76 (5.9)!	37(10.4)!	33 (1.6)	73 (3.1)	64 (3.1)	24 (5.9)!	63(10.4)!
Northeast	71 (2.9)	36 (7.5)!	*** (***)	*** (***)	*** (***)	29 (2.9)	64 (7.5)!	*** (***)	*** (***)	*** (***)
Southeast	61 (3.7)	25 (4.7)	*** (***)	*** (***)	*** (***)	39 (3.7)	75 (4.7)	*** (***)	*** (***)	*** (***)
Central	69 (2.8)	20 (6.5)!	*** (***)	*** (***)	*** (***)	31 (2.8)	80 (6.5)!	*** (***)	*** (***)	*** (***)
West	66 (3.2)	37 (9.9)!	37 (3.4)	*** (***)	*** (***)	34 (3.2)	63 (9.9)!	63 (3.4)	*** (***)	*** (***)
STATES										
Alabama	59 (1.6)	23 (2.3)	20 (4.4)	*** (***)	*** (***)	41 (1.6)	77 (2.3)	80 (4.4)	*** (***)	*** (***)
Arizona	69 (1.6)	35 (5.3)	34 (2.4)	*** (***)	23 (3.3)!	31 (1.6)	65 (5.3)	66 (2.4)	*** (***)	77 (3.3)!
Arkansas	63 (1.6)	19 (1.1)	21 (6.3)	*** (***)	*** (***)	37 (1.6)	81 (1.1)	79 (6.3)	*** (***)	*** (***)
California	68 (1.9)	23 (3.1)	30 (2.2)	64 (4.5)	*** (***)	32 (1.9)	77 (3.1)	70 (2.2)	36 (4.5)	*** (***)
Colorado	73 (1.2)	28 (6.8)!	40 (2.4)	*** (***)	*** (***)	27 (1.2)	72 (6.8)!	60 (2.4)	*** (***)	*** (***)
Connecticut	75 (1.2)	33 (3.6)	30 (3.3)	*** (***)	*** (***)	25 (1.2)	67 (3.6)	70 (3.3)	*** (***)	*** (***)
Delaware	63 (2.0)	34 (2.2)	35 (6.7)	*** (***)	*** (***)	37 (2.0)	66 (2.2)	65 (6.7)	*** (***)	*** (***)
Dist. Columbia	*** (***)	19 (1.0)	14 (2.3)	*** (***)	*** (***)	*** (***)	81 (1.0)	86 (2.3)	*** (***)	*** (***)
Florida	61 (1.9)	22 (2.0)	37 (3.1)	67 (6.6)	*** (***)	39 (1.9)	78 (2.0)	63 (3.1)	33 (6.6)	*** (***)
Georgia	68 (1.6)	30 (2.0)	26 (3.7)	*** (***)	*** (***)	32 (1.6)	70 (2.0)	74 (3.7)	*** (***)	*** (***)
Hawaii	58 (2.6)	*** (***)	23 (3.5)	46 (1.2)	*** (***)	42 (2.6)	*** (***)	77 (3.5)	54 (1.2)	*** (***)
Idaho	73 (1.3)	*** (***)	42 (4.9)	*** (***	45 (8.0)	27 (1.3)	*** (***)	58 (4.9)	*** (***)	55 (8.0)
Indiana	68 (1.5)	31 (4.5)	33 (4.7)	*** (***)	*** (***)	32 (1.5)	69 (4.5)	67 (4.7)	*** (***)	*** (***)
Iowa	78 (1.1)	*** (***)	48 (5.7)	*** (***)	*** (***)	22 (1.1)	*** (***)	52 (5.7)	*** (***)	*** (***)
Kentucky	54 (2.0)	31 (3.5)	18 (4.6)	*** (***)	*** (***)	46 (2.0)	69 (3.5)	82 (4.6)	*** (***)	*** (***)
Louisiana	54 (2.0)	18 (1.9)	19 (4.1)	*** (***)	*** (***)	46 (2.0)	82 (1.9)	81 (4.1)	*** (***)	*** (***)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	70 (1.9)	29 (2.6)	30 (3.4)	85 (3.8)	*** (***)	30 (1.9)	71 (2.6)	70 (3.4)	15 (3.8)	*** (***)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	69 (1.4)	18 (1.8)	35 (4.2)	*** (***)	*** (***)	31 (1.4)	82 (1.8)	65 (4.2)	*** (***)	*** (***)
Minnesota	77 (1.2)	30 (6.0)!	33 (7.4)	67 (6.1)	*** (***)	23 (1.2)	70 (6.0)!	67 (7.4)	33 (6.1)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	79 (1.2)	25 (5.2)	49 (6.8)	*** (***)	*** (***)	21 (1.2)	75 (5.2)	51 (6.8)	*** (***)	*** (***)
New Hampshire	72 (1.6)	*** (***)	48 (7.4)	*** (***)	*** (***)	28 (1.6)	*** (***)	52 (7.4)	*** (***)	*** (***)
New Jersey	77 (1.7)	31 (2.6)	33 (2.7)	86 (4.7)	*** (***)	23 (1.7)	69 (2.6)	67 (2.7)	14 (4.7)	*** (***)
New Mexico	72 (1.7)	*** (***)	38 (1.8)	*** (***)	26 (2.8)	28 (1.7)	*** (***	62 (1.8)	*** (***)	74 (2.8)
New York	72 (1.3)	26 (4.1)	30 (4.3)	73 (6.4)!	*** (***)	28 (1.3)	74 (4.1)	70 (4.3)	27 (6.4)!	*** (***)
North Carolina	58 (1.9)	23 (1.9)	12 (3.9)	*** (***)	25 (6.6)!	42 (1.9)	77 (1.9	88 (3.9)	*** (***)	75 (6.6)!
North Dakota	85 (1.3)	*** (***)	42 (7.5)	*** (***)	31 (4.2)!	15 (1.3)	*** (***)	58 (7.5)	*** (***)	69 (4.2)!
Ohio	66 (1.4)	22 (3.2)	28 (7.2)	*** (***)	*** (***)	34 (1.4)	78 (3.2)	72 (7.2)	*** (***)	*** (***)
Oklahoma	66 (1.8)	25 (3.0)	40 (5.8	*** (***)	52 (3.7)	34 (1.8)	75 (3.0)	60 (5.8)	*** (***)	48 (3.7)
Pennsylvania	70 (1.3)	29 (4.6)	20 (4.3)	*** (***)	*** (***	30 (1.3)	71 (4.6)	80 (4.3)	*** (***)	*** (***)
Rhode Island	61 (1.0)	20 (4.2)	21 (3.7)	*** (***)	*** (***	39 (1.0)	80 (4.2)	79 (3.7)	*** (***)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	71 (1.7)	23 (2.6)	36 (2.1)	*** (***)	*** (***)	29 (1.7)	77 (2.6)	64 (2.1)	*** (***	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	67 (1.7)	32 (2.5)	34 (5.0)	89 (3.8)	*** (***)	33 (1.7)	68 (2.5)	66 (5.0)	11 (3.8)	*** (***)
West Virginia	51 (1.2)	23 (6.1)	24 (5.3)	*** (***)	*** (***)	49 (1.2)	77 (6.1)	76 (5.3)	*** (***)	*** (***)
Wisconsin	79 (1.5)	24 (6.1)	42 (5.7)	*** (***)	*** (***)	21 (1.5)	76 (6.1)	58 (5.7)	*** (***)	*** (***)
Wyoming	74 (1.3)	*** (***)	50 (3.5)	*** (***)	54 (6.5)	26 (1.3)	*** (***)	50 (3.5)	*** (***)	46 (6.5)
TERRITORIES										
Guam	57 (5.9)	*** (***)	9 (1.4)	29 (1.1)	*** (***)	43 (5.9)	*** (***)	91 (1.4)	71 (1.1)	*** (***)
Virgin Islands	*** (***)	11 (1.3)	6 (1.5)	*** (***)	*** (***)	*** (***)	89 (1.3)	94 (1.5)	*** (***)	*** (***)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE 2.4 Average Mathematics Proficiency and Achievement Levels by Gender, Grades 4, 8, and 12

				Percentage of Students At or Above			
	Assessment Years	Percentage of Students	Average Proficiency	Advanced	Proficient	Basic	**Percentage Below Basic**
Grade 4							
Male	1992	50 (0.6)	220 (0.8)>	3 (0.5)	20 (1.1)>	62 (1.1)>	**38 (1.1)<**
	1990	52 (1.0)	214 (1.2)	2 (0.6)	14 (1.3)	55 (1.7)	**45 (1.7)**
Female	1992	50 (0.6)	217 (1.0)>	2 (0.3)	17 (1.3)	59 (1.5)>	**41 (1.5)<**
	1990	48 (1.0)	212 (1.1)	1 (0.4)	13 (1.4)	53 (2.0)	**47 (2.0)**
Grade 8							
Male	1992	51 (0.6)	267 (1.1)>	4 (0.6)	25 (1.3)	62 (1.3)	**38 (1.3)**
	1990	51 (1.0)	263 (1.6)	3 (0.5)	21 (1.5)	58 (1.8)	**42 (1.8)**
Female	1992	49 (0.6)	268 (1.0)>	4 (0.5)>	24 (1.3)>	63 (1.2)	**37 (1.2)**
	1990	49 (1.0)	262 (1.3)	2 (0.4)	18 (1.2)	59 (1.6)	**41 (1.6)**
Grade 12							
Male	1992	49 (0.8)	301 (1.1)>	3 (0.5)	18 (1.1)	65 (1.3)	**35 (1.3)**
	1990	48 (1.0)	297 (1.4)	3 (0.6)	16 (1.5)	61 (1.7)	**39 (1.7)**
Female	1992	51 (0.8)	297 (1.0)>	1 (0.3)	14 (1.1)	63 (1.4)	**37 (1.4)**
	1990	52 (1.0)	292 (1.3)	1 (0.3)	10 (0.9)	57 (1.9)	**43 (1.9)**

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

TABLE 2.5 Average Mathematics Proficiency and Achievement Levels by Race/Ethnicity and Gender, Grades 4, 8, and 12

				Percentage of Students At or Above			
	Assessment Years	Percentage of Students	Average Proficiency	Advanced	Proficient	Basic	Percentage Below Basic
Grade 4							
White							
Male	**1992**	50 (0.7)	228 (1.0)>	3 (0.6)	25 (1.5)>	74 (1.3)>	**26(1.3)<**
	1990	52 (1.1)	221 (1.4)	3 (0.8)	18 (1.8)	65 (2.3)	**35(2.3)**
Female	**1992**	50 (0.7)	225 (1.3)>	2 (0.4)	21 (1.8)	70 (1.9)>	**30(1.9)<**
	1990	48 (1.1)	220 (1.3)	1 (0.5)	16 (1.8)	63 (2.3)	**37(2.3)**
Black							
Male	**1992**	48 (1.5)	192 (1.6)	0 (0.0)	4 (1.0)	26 (2.7)	**74(2.7)**
	1990	50 (1.9)	189 (2.1)	0 (0.0)	1 (0.7)	22 (3.5)	**78(3.5)**
Female	**1992**	52 (1.5)	191 (1.6)	0 (0.0)	2 (0.8)	23 (2.3)	**77(2.3)**
	1990	50 (1.9)	190 (2.5)	0 (0.3)	2 (1.0)	22 (3.2)	**78(3.2)**
Hispanic							
Male	**1992**	53 (1.8)	200 (1.6)	0 (0.2)	5 (1.6)	38 (3.0)	**62(3.0)**
	1990	56 (2.7)	198 (3.1)	0 (0.4)	6 (1.6)	37 (4.1)	**63(4.1)**
Female	**1992**	47 (1.8)	201 (1.7)	0 (0.4)	6 (1.3)	36 (2.5)	**64(2.5)**
	1990	44 (2.7)	198 (2.3)	0 (0.0)	4 (1.9)	32 (3.8)	**68(3.8)**
Grade 8							
White							
Male	**1992**	51 (0.7)	277 (1.2)>	4 (0.7)	32 (1.5)>	74 (1.5)>	**26(1.5)<**
	1990	50 (1.3)	271 (1.9)	4 (0.6)	26 (2.0)	67 (2.0)	**33(2.0)**
Female	**1992**	49 (0.7)	277 (1.1)>	4 (0.8)	31 (1.6)>	74 (1.4)>	**26(1.4)<**
	1990	50 (1.3)	269 (1.3)	2 (0.6)	21 (1.5)	68 (1.8)	**32(1.8)**
Black							
Male	**1992**	52 (1.7)	237 (1.9)	0 (0.7)	4 (1.3)	27 (2.9)	**73(2.9)**
	1990	46 (2.2)	238 (3.2)	0 (0.5)	6 (1.9)	28 (3.9)	**72(3.9)**
Female	**1992**	48 (1.7)	237 (1.5)	0 (0.0)	3 (0.8)	27 (2.4)	**73(2.4)**
	1990	54 (2.2)	238 (3.3)	0 (0.2)	7 (1.6)	28 (4.3)	**72(4.3)**
Hispanic							
Male	**1992**	52 (1.8)	246 (1.7)	0 (0.4)	9 (1.4)	39 (2.7)	**61(2.7)**
	1990	57 (2.4)	245 (2.6)	1 (0.0)	7 (2.2)	39 (3.4)	**61(3.4)**
Female	**1992**	48 (1.8)	247 (1.9)	1 (0.8)	8 (1.3)	39 (2.8)	**61(2.8)**
	1990	43 (2.4)	242 (3.4)	0 (0.0)	6 (2.1)	36 (4.3)	**64(4.3)**
Grade 12							
White							
Male	**1992**	50 (0.9)	307 (1.0)>	3 (0.6)	22 (1.3)	73 (1.4)	**27(1.4)**
	1990	48 (1.1)	303 (1.5)	3 (0.7)	19 (1.9)	68 (1.8)	**32(1.8)**
Female	**1992**	50 (0.9)	303 (1.0)>	2 (0.4)	16 (1.3)	70 (1.5)	**30(1.5)**
	1990	52 (1.1)	298 (1.4)	1 (0.3)	13 (1.2)	65 (2.2)	**35(2.2)**
Black							
Male	**1992**	46 (2.2)	277 (2.3)	0 (0.5)	4 (1.0)	36 (3.6)	**64(3.6)**
	1990	47 (3.1)	272 (2.4)	0 (0.0)	4 (2.0)	30 (3.6)	**70(3.6)**
Female	**1992**	54 (2.2)	273 (1.8)>	0 (0.0)	2 (0.8)	33 (2.8)	**67(2.8)**
	1990	53 (3.1)	264 (2.5)	0 (0.0)	1 (0.4)	26 (3.3)	**74(3.3)**
Hispanic							
Male	**1992**	50 (2.5)	281 (3.4)	0 (0.2)	6 (1.2)	43 (3.8)	**57(3.8)**
	1990	48 (3.7)	280 (3.2)	1 (0.7)	6 (2.2)	43 (5.7)	**57(5.7)**
Female	**1992**	50 (2.5)	285 (2.5)>	1 (0.7)	6 (1.5)	47 (3.7)>	**53(3.7)<**
	1990	52 (3.7)	272 (3.7)	0 (0.0)	3 (1.0)	32 (5.1)	**68(5.1)**

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

TABLE 2.6 | Average Mathematics Proficiency by Gender

PUBLIC SCHOOLS	Grade 4 - 1992			
	Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	50 (0.7)	218 (0.9)	50 (0.7)	216 (1.1)
Northeast	50 (1.2)	225 (2.3)	50 (1.2)	220 (2.9)
Southeast	49 (1.3)	209 (1.6)	51 (1.3)	209 (2.7)
Central	50 (1.3)	224 (2.6)	50 (1.3)	220 (2.5)
West	52 (1.5)	217 (1.7)	48 (1.5)	217 (1.9)
STATES				
Alabama	51 (1.0)	207 (1.8)	49 (1.0)	207 (1.7)
Arizona	51 (1.1)	213 (1.3)	49 (1.1)	214 (1.2)
Arkansas	53 (1.0)	209 (1.1)	47 (1.0)	208 (1.1)
California	52 (1.0)	208 (1.9)	48 (1.0)	207 (1.7)
Colorado	50 (1.0)	221 (1.2)	50 (1.0)	219 (1.2)
Connecticut	49 (1.1)	227 (1.3)	51 (1.1)	224 (1.3)
Delaware	51 (1.2)	218 (1.3)	49 (1.2)	215 (1.2)
Dist. Columbia	48 (0.9)	192 (1.0)	52 (0.9)	191 (0.9)
Florida	48 (1.0)	214 (1.8)	52 (1.0)	211 (1.7)
Georgia	51 (1.0)	214 (1.7)	49 (1.0)	215 (1.3)
Hawaii	49 (1.0)	211 (1.7)	51 (1.0)	214 (1.2)
Idaho	49 (0.8)	222 (1.2)	51 (0.8)	219 (1.1)
Indiana	50 (1.0)	221 (1.4)	50 (1.0)	218 (1.1)
Iowa	51 (0.9)	229 (1.2)	49 (0.9)	228 (1.3)
Kentucky	49 (0.9)	214 (1.3)	51 (0.9)	214 (1.1)
Louisiana	52 (1.0)	203 (1.7)	48 (1.0)	202 (1.5)
Maine	49 (1.1)	231 (1.3)	51 (1.1)	230 (1.3)
Maryland	50 (1.1)	218 (1.5)	50 (1.1)	214 (1.6)
Massachusetts	51 (1.0)	227 (1.4)	49 (1.0)	224 (1.4)
Michigan	52 (1.0)	221 (1.9)	48 (1.0)	216 (2.0)
Minnesota	50 (0.9)	228 (1.1)	50 (0.9)	227 (1.2)
Mississippi	52 (0.7)	199 (1.3)	48 (0.7)	201 (1.3)
Missouri	52 (0.9)	221 (1.5)	48 (0.9)	221 (1.3)
Nebraska	51 (0.9)	226 (1.4)	49 (0.9)	223 (1.6)
New Hampshire	50 (1.1)	229 (1.5)	50 (1.1)	228 (1.3)
New Jersey	51 (1.0)	227 (1.7)	49 (1.0)	225 (1.6)
New Mexico	47 (1.0)	212 (1.7)	53 (1.0)	212 (1.5)
New York	52 (1.1)	221 (1.3)	48 (1.1)	214 (1.5)
North Carolina	51 (0.9)	211 (1.2)	49 (0.9)	212 (1.3)
North Dakota	53 (1.1)	229 (1.0)	47 (1.1)	226 (1.0)
Ohio	51 (1.0)	219 (1.2)	49 (1.0)	216 (1.5)
Oklahoma	51 (1.1)	220 (1.1)	49 (1.1)	218 (1.3)
Pennsylvania	53 (1.0)	224 (1.6)	47 (1.0)	222 (1.6)
Rhode Island	51 (1.1)	215 (1.9)	49 (1.1)	213 (1.6)
South Carolina	50 (1.1)	211 (1.4)	50 (1.1)	211 (1.1)
Tennessee	52 (0.8)	209 (1.5)	48 (0.8)	210 (1.5)
Texas	49 (0.9)	218 (1.5)	51 (0.9)	216 (1.4)
Utah	51 (1.0)	223 (1.2)	49 (1.0)	223 (1.2)
Virginia	51 (1.0)	221 (1.6)	49 (1.0)	218 (1.4)
West Virginia	49 (0.9)	215 (1.5)	51 (0.9)	213 (1.1)
Wisconsin	51 (1.2)	229 (1.4)	49 (1.2)	226 (1.2)
Wyoming	50 (1.0)	226 (1.2)	50 (1.0)	223 (1.1)
TERRITORY				
Guam	52 (1.2)	189 (1.3)	48 (1.2)	194 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 2.6 | **Average Mathematics Proficiency by Gender (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992				Grade 8 - 1990			
	Male		Female		Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	52 (0.6)	266 (1.2)	48 (0.6)	267 (1.2)	51 (1.1)	262 (1.7)	49 (1.1)	261 (1.4)
Northeast	53 (1.3)	267 (2.9)	47 (1.3)	267 (3.6)	50 (2.1)	271 (4.1)	50 (2.1)	269 (3.2)
Southeast	48 (1.2)	257 (1.6)	52 (1.2)	259 (1.4)	49 (2.8)	253 (2.9)	51 (2.8)	255 (2.5)
Central	56 (0.7)	272 (2.9)	44 (0.7)	274 (2.4)	50 (1.4)	266 (2.8)	50 (1.4)	264 (2.7)
West	51 (1.4)	266 (2.7)	49 (1.4)	268 (2.2)	55 (2.1)	262 (3.3)	45 (2.1)	259 (2.7)
STATES								
Alabama	52 (1.0)	253 (1.8)	48 (1.0)	250 (1.9)	50 (1.0)	254 (1.5)	50 (1.0)	252 (1.3)
Arizona	51 (1.0)	265 (1.4)	49 (1.0)	264 (1.4)»	50 (0.9)	262 (1.5)	50 (0.9)	257 (1.5)
Arkansas	51 (1.0)	256 (1.4)	49 (1.0)	255 (1.3)	50 (1.1)	257 (1.3)	50 (1.1)	255 (1.1)
California	49 (1.2)	259 (1.9)	51 (1.2)	261 (1.9) >	51 (0.9)	258 (1.6)	49 (0.9)	255 (1.3)
Colorado	51 (0.8)	273 (1.2) >	49 (0.8)	270 (1.3) >	51 (1.0)	269 (1.0)	49 (1.0)	266 (1.4)
Connecticut	50 (0.9)	274 (1.4)	50 (0.9)	272 (1.3)	48 (0.8)	271 (1.2)	52 (0.8)	269 (1.4)
Delaware	50 (1.2)	263 (1.4)	50 (1.2)	261 (1.3)	52 (1.2)	260 (1.6)	48 (1.2)	262 (1.6)
Dist. Columbia	49 (1.4)	233 (1.2)	51 (1.4)	235 (1.4)	47 (0.9)	230 (1.2)	53 (0.9)	233 (1.0)
Florida	49 (1.0)	259 (1.5)	51 (1.0)	259 (1.8) >	51 (1.1)	257 (1.6)	49 (1.1)	254 (1.4)
Georgia	48 (1.0) <	260 (1.5)	52 (1.0) >	257 (1.2)	51 (0.8)	259 (1.7)	49 (0.8)	258 (1.5)
Hawaii	52 (1.2)	254 (1.1)»	48 (1.2)	260 (1.2) >	53 (1.0)	248 (1.1)	47 (1.0)	254 (1.3)
Idaho	51 (1.0)	276 (1.1) >	49 (1.0)	272 (0.9)	52 (1.2)	272 (1.0)	48 (1.2)	270 (0.9)
Indiana	51 (1.0)	272 (1.4)	49 (1.0)	267 (1.3)	51 (0.9)	270 (1.4)	49 (0.9)	264 (1.4)
Iowa	52 (0.9)	284 (1.2)	48 (0.9)	282 (1.3) >	50 (1.2)	281 (1.2)	50 (1.2)	275 (1.3)
Kentucky	50 (1.0)	263 (1.4)	50 (1.0)	260 (1.4) >	51 (1.1)	259 (1.4)	49 (1.1)	256 (1.2)
Louisiana	47 (1.0)	251 (1.6)	53 (1.0)	247 (2.0)	50 (1.1)	248 (1.4)	50 (1.1)	245 (1.5)
Maine	51 (1.0)	278 (1.3)	49 (1.0)	278 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	50 (1.0)	265 (1.6)	50 (1.0)	263 (1.6)	51 (0.8)	261 (1.5)	49 (0.8)	261 (1.8)
Massachusetts	50 (0.8)	273 (1.5)	50 (0.8)	271 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	48 (1.0) <	269 (1.6)	52 (1.0) >	264 (1.5)	52 (1.0)	265 (1.4)	48 (1.0)	264 (1.3)
Minnesota	49 (1.0)	282 (1.4) >	51 (1.0)	282 (1.1)»	50 (1.0)	276 (1.1)	50 (1.0)	275 (1.1)
Mississippi	48 (1.0)	247 (1.6)	52 (1.0)	244 (1.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	52 (1.0)	272 (1.5)	48 (1.0)	269 (1.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	53 (1.2)	278 (1.3)	47 (1.2)	276 (1.4)	52 (1.2)	277 (1.4)	48 (1.2)	275 (1.4)
New Hampshire	50 (1.1) <	278 (1.3) >	50 (1.1) >	277 (1.2)	53 (1.1)	273 (1.1)	47 (1.1)	274 (1.2)
New Jersey	49 (1.0)	275 (1.6)	51 (1.0)	268 (1.7)	51 (1.0)	271 (1.4)	49 (1.0)	268 (1.4)
New Mexico	50 (1.0)	261 (1.4)	50 (1.0)	257 (1.0) >	50 (1.2)	259 (1.1)	50 (1.2)	254 (1.0)
New York	49 (1.2)	267 (2.4)	51 (1.2)	265 (2.3)	49 (1.3)	262 (1.6)	51 (1.3)	259 (1.7)
North Carolina	50 (0.9)	259 (1.4)»	50 (0.9)	257 (1.4) >	51 (1.0)	250 (1.3)	49 (1.0)	251 (1.2)
North Dakota	51 (1.1)	284 (1.3)	49 (1.1)	281 (1.4)	51 (1.6)	284 (1.5)	49 (1.6)	278 (1.6)
Ohio	50 (1.1)	269 (1.8)	50 (1.1)	266 (1.8)	53 (0.9)	266 (1.3)	47 (0.9)	261 (1.2)
Oklahoma	50 (1.0)	269 (1.2)	50 (1.0)	266 (1.6) >	50 (0.9)	266 (1.5)	50 (0.9)	261 (1.5)
Pennsylvania	50 (1.0)	273 (1.6)	50 (1.0)	268 (1.7)	51 (1.1)	269 (1.7)	49 (1.1)	263 (1.8)
Rhode Island	50 (0.8)	265 (1.0) >	50 (0.8)	265 (1.0)»	50 (0.9)	262 (1.0)	50 (0.9)	259 (1.0)
South Carolina	50 (0.9)	260 (1.4)	50 (0.9)	260 (1.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	50 (1.1)	260 (1.7)	50 (1.1)	256 (1.5)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	49 (0.9)	266 (1.4) >	51 (0.9)	261 (1.6) >	50 (1.0)	260 (1.8)	50 (1.0)	256 (1.4)
Utah	52 (1.2)	275 (1.0)	48 (1.2)	272 (1.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	50 (0.7)	268 (1.6)	50 (0.7)	267 (1.2)	49 (0.9)	266 (2.0)	51 (0.9)	263 (1.4)
West Virginia	49 (1.0)	259 (1.1)	51 (1.0)	258 (1.2)	52 (1.1)	256 (1.5)	48 (1.1)	255 (1.1)
Wisconsin	51 (1.1)	278 (1.8)	49 (1.1)	277 (1.6)	50 (1.1)	275 (1.4)	50 (1.1)	274 (1.6)
Wyoming	50 (1.0)	274 (1.1)	50 (1.0)	275 (1.2) >	51 (0.8)	274 (0.8)	49 (0.8)	270 (0.9)
TERRITORIES								
Guam	52 (1.2)	232 (1.4)	48 (1.2)	237 (1.5) >	51 (1.2)	232 (1.4)	49 (1.2)	231 (1.1)
Virgin Islands	53 (1.4) >	221 (1.5)	47 (1.4) <	222 (1.4) >	49 (1.1)	221 (1.1)	51 (1.1)	217 (1.3)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. (xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE 2.7 | Achievement Levels by Gender

PUBLIC SCHOOLS	Grade 4 - 1992							
	Percentage of Students At or Above Advanced		Percentage of Students At or Above Proficient		Percentage of Students At or Above Basic		Percentage of Students Below Basic	
	Male	Female	Male	Female	Male	Female	Male	Female
NATION	3 (0.5)	2 (0.3)	19 (1.1)	16 (1.4)	60 (1.2)	58 (1.7)	40 (1.2)	42 (1.7)
Northeast	4 (1.1)	2 (1.1)	27 (3.3)	20 (3.4)	66 (2.7)	62 (4.5)	34 (2.7)	38 (4.5)
Southeast	1 (0.4)	1 (0.6)	11 (1.3)	11 (2.4)	48 (2.4)	48 (3.8)	52 (2.4)	52 (3.8)
Central	2 (1.0)	2 (0.4)	23 (2.9)	17 (2.7)	69 (4.0)	63 (4.0)	31 (4.0)	37 (4.0)
West	3 (1.0)	2 (0.7)	18 (2.3)	16 (2.7)	58 (2.7)	60 (2.5)	42 (2.7)	40 (2.5)
STATES								
Alabama	1 (0.3)	1 (0.3)	11 (1.3)	10 (1.5)	46 (2.7)	44 (2.4)	54 (2.7)	56 (2.4)
Arizona	1 (0.4)	1 (0.4)	14 (1.2)	13 (1.2)	55 (2.0)	56 (1.8)	45 (2.0)	44 (1.8)
Arkansas	1 (0.3)	0 (0.2)	10 (1.0)	10 (1.1)	50 (1.6)	48 (2.2)	50 (1.6)	52 (2.2)
California	2 (0.7)	1 (0.4)	13 (1.6)	12 (1.2)	48 (2.3)	48 (2.2)	52 (2.3)	52 (2.2)
Colorado	3 (0.6)	2 (0.6)	19 (1.3)	17 (1.4)	64 (1.7)	61 (1.8)	36 (1.7)	39 (1.8)
Connecticut	4 (0.9)	3 (0.8)	27 (1.7)	23 (1.8)	70 (1.9)	68 (1.6)	30 (1.9)	32 (1.6)
Delaware	3 (0.6)	2 (0.6)	18 (1.5)	16 (1.6)	58 (2.0)	55 (2.0)	42 (2.0)	45 (2.0)
Dist. Columbia	1 (0.3)	1 (0.3)	6 (0.7)	5 (0.6)	26 (1.7)	24 (1.4)	74 (1.7)	76 (1.4)
Florida	2 (0.5)	1 (0.5)	15 (1.8)	12 (1.4)	55 (2.1)	52 (2.5)	45 (2.1)	48 (2.5)
Georgia	2 (0.5)	1 (0.5)	16 (1.5)	15 (1.2)	54 (2.3)	56 (2.1)	46 (2.3)	44 (2.1)
Hawaii	2 (0.6)	1 (0.3)	16 (1.2)	14 (1.1)	51 (2.3)	56 (1.9)	49 (2.3)	44 (1.9)
Idaho	2 (0.5)	1 (0.3)	18 (1.2)	15 (1.4)	67 (2.2)	62 (1.8)	33 (2.2)	38 (1.8)
Indiana	2 (0.6)	1 (0.4)	17 (1.5)	15 (1.2)	64 (2.2)	59 (2.0)	36 (2.2)	41 (2.0)
Iowa	4 (0.5)	3 (0.6)	28 (1.5)	26 (1.6)	75 (1.5)	73 (1.8)	25 (1.5)	27 (1.8)
Kentucky	2 (0.8)	1 (0.5)	14 (1.6)	12 (1.2)	53 (2.0)	53 (1.7)	47 (2.0)	47 (1.7)
Louisiana	1 (0.3)	0 (0.3)	9 (0.9)	7 (1.0)	41 (2.5)	40 (2.1)	59 (2.5)	60 (2.1)
Maine	3 (0.8)	3 (0.7)	29 (1.9)	28 (1.9)	76 (1.6)	76 (2.1)	24 (1.6)	24 (2.1)
Maryland	3 (0.6)	2 (0.5)	21 (1.5)	17 (1.5)	59 (1.7)	55 (2.2)	41 (1.7)	45 (2.2)
Massachusetts	4 (0.8)	2 (0.5)	26 (1.7)	22 (1.6)	71 (1.6)	68 (2.0)	29 (1.6)	32 (2.0)
Michigan	2 (0.8)	1 (0.4)	22 (2.1)	16 (1.8)	65 (2.5)	59 (2.5)	35 (2.5)	41 (2.5)
Minnesota	4 (0.7)	3 (0.6)	29 (1.4)	25 (1.6)	72 (1.8)	72 (1.8)	28 (1.8)	28 (1.8)
Mississippi	0 (0.1)	0 (0.2)	6 (0.9)	7 (0.8)	36 (1.7)	39 (1.8)	64 (1.7)	61 (1.8)
Missouri	2 (0.5)	1 (0.4)	20 (1.6)	19 (2.0)	63 (2.1)	64 (1.8)	37 (2.1)	36 (1.8)
Nebraska	3 (0.7)	2 (0.7)	24 (1.7)	21 (2.4)	69 (2.0)	67 (2.4)	31 (2.0)	33 (2.4)
New Hampshire	4 (0.7)	2 (0.9)	28 (2.0)	24 (2.0)	74 (2.2)	74 (1.8)	26 (2.2)	26 (1.8)
New Jersey	4 (1.1)	2 (0.7)	27 (1.9)	24 (2.0)	71 (2.6)	69 (2.3)	29 (2.6)	31 (2.3)
New Mexico	1 (0.6)	1 (0.4)	11 (1.2)	11 (2.1)	52 (2.5)	51 (2.0)	48 (2.5)	49 (2.0)
New York	3 (0.5)	1 (0.4)	21 (1.6)	14 (1.4)	63 (1.8)	55 (2.7)	37 (1.8)	45 (2.7)
North Carolina	2 (0.5)	1 (0.4)	14 (1.1)	13 (1.1)	51 (2.1)	53 (2.0)	49 (2.1)	47 (2.0)
North Dakota	3 (0.6)	1 (0.4)	25 (1.6)	21 (1.8)	75 (1.7)	73 (1.6)	25 (1.7)	27 (1.6)
Ohio	2 (0.5)	1 (0.4)	18 (1.3)	15 (1.5)	61 (1.9)	57 (2.1)	39 (1.9)	43 (2.1)
Oklahoma	1 (0.4)	1 (0.4)	15 (1.6)	14 (1.3)	64 (1.8)	59 (1.9)	36 (1.8)	41 (1.9)
Pennsylvania	3 (0.6)	2 (0.7)	24 (2.0)	21 (1.5)	67 (2.4)	66 (2.1)	33 (2.4)	34 (2.1)
Rhode Island	2 (0.5)	1 (0.5)	15 (1.6)	12 (1.3)	57 (2.6)	54 (2.4)	43 (2.6)	46 (2.4)
South Carolina	1 (0.5)	1 (0.5)	14 (1.5)	12 (1.2)	50 (2.0)	49 (2.0)	50 (2.0)	51 (2.0)
Tennessee	1 (0.3)	1 (0.3)	10 (1.3)	10 (1.1)	49 (2.2)	50 (2.7)	51 (2.2)	50 (2.7)
Texas	2 (0.7)	1 (0.5)	17 (1.7)	14 (1.4)	59 (1.9)	57 (2.1)	41 (1.9)	43 (2.1)
Utah	2 (0.5)	2 (0.4)	20 (1.5)	19 (1.4)	67 (1.9)	68 (2.1)	33 (1.9)	32 (2.1)
Virginia	4 (0.8)	2 (0.7)	21 (1.9)	18 (1.6)	61 (1.8)	59 (1.6)	39 (1.8)	41 (1.6)
West Virginia	2 (0.5)	1 (0.4)	14 (1.5)	11 (1.0)	55 (2.2)	53 (1.9)	45 (2.2)	47 (1.9)
Wisconsin	4 (0.7)	2 (0.6)	27 (1.8)	23 (1.8)	74 (1.5)	71 (1.6)	26 (1.5)	29 (1.6)
Wyoming	2 (0.6)	1 (0.3)	22 (1.6)	17 (1.3)	72 (1.7)	68 (1.8)	28 (1.7)	32 (1.8)
TERRITORY								
Guam	0 (0.2)	1 (0.2)	4 (0.7)	5 (0.8)	25 (2.1)	31 (1.3)	75 (2.1)	69 (1.3)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One.

TABLE 2.7 | Achievement Levels by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Percentage of Students At or Above Advanced		Percentage of Students At or Above Proficient		Percentage of Students At or Above Basic		Percentage of Students Below Basic	
	Male	Female	Male	Female	Male	Female	Male	Female
NATION	3 (0.6)	3 (0.6)	24 (1.3)	23 (1.4)	61 (1.4)	61 (1.3)	39 (1.4)	39 (1.3)
Northeast	6 (1.3)	5 (2.2)	26 (3.0)	25 (3.6)	59 (4.3)	60 (4.1)	41 (4.3)	40 (4.1)
Southeast	1 (0.6)	2 (0.5)	16 (1.4)	17 (1.7)	53 (2.1)	53 (1.9)	47 (2.1)	47 (1.9)
Central	3 (0.8)	4 (1.1)	29 (3.6)	27 (3.1)	69 (3.4)	70 (3.0)	31 (3.4)	30 (3.0)
West	4 (1.3)	4 (1.2)	24 (2.8)	24 (2.7)	61 (3.2)	63 (2.8)	39 (3.2)	37 (2.8)
STATES								
Alabama	2 (0.6)	1 (0.2)	14 (1.4)	11 (1.3)	46 (2.2)	43 (2.4)	54 (2.2)	57 (2.4)
Arizona	2 (0.5)	2 (0.5)	20 (1.8)	17 (1.7)	61 (2.3)	61 (2.0) >	39 (2.3)	39 (2.0) <
Arkansas	1 (0.5)	1 (0.3)	13 (1.3)	12 (1.1)	51 (2.1)	50 (1.9)	49 (2.1)	50 (1.9)
California	2 (0.8)	3 (0.9)	20 (1.5)	20 (1.8)	54 (2.3)	56 (2.2)	46 (2.3)	44 (2.2)
Colorado	3 (0.6)	2 (0.6)	28 (1.6)	24 (1.6)	71 (1.6)	67 (1.8)	29 (1.6)	33 (1.8)
Connecticut	5 (0.8)	4 (0.6)	32 (1.5)	29 (1.4)	69 (1.8)	68 (1.5)	31 (1.8)	32 (1.5)
Delaware	3 (0.6)	2 (0.5)	19 (1.6)	18 (1.8)	58 (1.7)	56 (1.6)	42 (1.7)	44 (1.6)
Dist. Columbia	1 (0.3)	0 (0.5)	5 (1.2)	6 (1.1)	25 (1.8)	27 (2.0)	75 (1.8)	73 (2.0)
Florida	2 (0.6)	2 (0.5)	18 (1.5)	18 (1.3) >	54 (2.0)	55 (2.2)	46 (2.0)	45 (2.2)
Georgia	2 (0.5)	1 (0.4)	18 (1.5)	14 (1.1)	55 (1.9)	52 (1.6)	45 (1.9)	48 (1.6)
Hawaii	2 (0.4)	3 (0.5)	15 (1.1)	19 (1.1)	48 (1.5) >	55 (1.8)	52 (1.5) <	45 (1.8)
Idaho	3 (0.6)	2 (0.3)	30 (1.6)	24 (1.3)	75 (1.5)	71 (1.5)	25 (1.5)	29 (1.5)
Indiana	4 (0.7)	3 (0.5)	26 (1.9)	22 (1.7)	68 (1.7)	63 (1.8)	32 (1.7)	37 (1.8)
Iowa	5 (0.8)	4 (0.9)	39 (1.6)	36 (1.8) >	81 (1.4)	81 (1.6) >	19 (1.4)	19 (1.6) <
Kentucky	3 (0.6)	1 (0.4)	18 (1.7)	16 (1.5)	58 (1.8)	57 (1.8)	42 (1.8)	43 (1.8)
Louisiana	1 (0.2)	1 (0.2)	10 (1.2)	10 (1.4)	45 (2.2)	40 (2.3)	55 (2.2)	60 (2.3)
Maine	4 (0.8)	3 (0.8)	32 (2.4)	30 (2.3)	76 (1.6)	79 (1.8)	24 (1.6)	21 (1.8)
Maryland	5 (0.9)	3 (0.5)	25 (1.8)	23 (1.7)	60 (1.7)	58 (1.8)	40 (1.7)	42 (1.8)
Massachusetts	4 (0.9)	3 (0.6)	31 (2.1)	25 (1.6)	68 (1.7)	68 (1.7)	32 (1.7)	32 (1.7)
Michigan	3 (0.7)	2 (0.5)	26 (2.1)	20 (1.8)	65 (1.8)	61 (2.2)	35 (1.8)	39 (2.2)
Minnesota	6 (1.0)	6 (0.7) >	37 (1.8) >	36 (1.4) »	78 (1.3)	79 (1.6)	22 (1.3)	21 (1.6)
Mississippi	1 (0.3)	0 (0.2)	10 (0.9)	8 (1.1)	40 (1.9)	37 (1.9)	60 (1.9)	63 (1.9)
Missouri	3 (0.5)	2 (0.5)	25 (1.8)	22 (1.5)	68 (1.7)	68 (2.1)	32 (1.7)	32 (2.1)
Nebraska	4 (0.8)	3 (0.8)	33 (2.0)	30 (2.3)	76 (1.5)	75 (1.6)	24 (1.5)	25 (1.6)
New Hampshire	4 (0.8)	3 (0.7)	31 (1.8) >	29 (1.6)	77 (1.4)	76 (1.4)	23 (1.4)	24 (1.4)
New Jersey	5 (0.7)	3 (0.9)	31 (1.8)	25 (1.8)	71 (2.0)	64 (2.1)	29 (2.0)	36 (2.1)
New Mexico	2 (0.5)	1 (0.3)	16 (1.4)	12 (1.3)	56 (2.2)	52 (1.5)	44 (2.2)	48 (1.5)
New York	4 (0.9)	3 (0.6)	25 (2.0)	23 (1.7) >	64 (2.7)	62 (2.7)	36 (2.7)	38 (2.7)
North Carolina	2 (0.4)	1 (0.5)	17 (1.2) >	13 (1.2)	53 (1.9) >	52 (1.7) >	47 (1.9) <	48 (1.7) <
North Dakota	5 (0.9)	3 (0.8)	37 (2.1)	34 (2.0)	84 (1.6)	81 (1.8)	16 (1.6)	19 (1.8)
Ohio	3 (0.7)	2 (0.4)	23 (1.9)	22 (1.8) >	65 (2.5)	63 (2.1)	35 (2.5)	37 (2.1)
Oklahoma	2 (0.6)	1 (0.3)	23 (1.5)	19 (1.8)	66 (2.3)	64 (2.4)	34 (2.3)	36 (2.4)
Pennsylvania	4 (0.9)	3 (0.6)	29 (1.6)	23 (2.0)	70 (1.9)	65 (2.1)	30 (1.9)	35 (2.1)
Rhode Island	2 (0.4)	2 (0.6)	20 (1.4)	19 (1.7)	62 (1.8)	62 (1.5) »	38 (1.8)	38 (1.5) «
South Carolina	2 (0.6)	2 (0.7)	19 (1.5)	17 (1.2)	54 (1.9)	53 (1.4)	46 (1.9)	47 (1.4)
Tennessee	2 (0.6)	1 (0.3)	18 (1.5)	12 (1.2)	56 (2.3)	50 (2.0)	44 (2.3)	50 (2.0)
Texas	4 (0.9)	3 (0.8)	24 (1.5) >	19 (1.9)	60 (1.6)	56 (2.0)	40 (1.6)	44 (2.0)
Utah	3 (0.6)	2 (0.5)	29 (1.5)	26 (1.3)	74 (1.7)	71 (1.7)	26 (1.7)	29 (1.7)
Virginia	4 (0.8)	3 (0.5)	24 (1.7)	22 (1.4)	63 (2.0)	62 (1.9)	37 (2.0)	38 (1.9)
West Virginia	1 (0.3)	1 (0.3)	13 (1.3)	12 (1.1)	54 (1.8)	52 (2.0)	46 (1.8)	48 (2.0)
Wisconsin	4 (0.9)	4 (0.6)	32 (1.7)	32 (1.9)	77 (2.4)	75 (2.0)	23 (2.4)	25 (2.0)
Wyoming	3 (0.7)	2 (0.6)	26 (1.5)	26 (1.8)	72 (1.6)	74 (1.7)	28 (1.6)	26 (1.7)
TERRITORIES								
Guam	1 (0.3)	1 (0.4)	7 (1.0)	7 (1.0)	29 (1.6)	30 (2.0)	71 (1.6)	70 (2.0)
Virgin Islands	0 (0.1)	0 (0.0)	1 (0.5)	1 (0.4)	12 (1.2)	13 (1.6)	88 (1.2)	87 (1.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 2.7 | Achievement Levels by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Percentage of Students At or Above Advanced		Percentage of Students At or Above Proficient		Percentage of Students At or Above Basic		Percentage of Students Below Basic	
	Male	Female	Male	Female	Male	Female	Male	Female
NATION	3 (0.5)	2 (0.5)	21 (1.6)	18 (1.3)	57 (1.9)	57 (1.6)	43 (1.9)	43 (1.6)
Northeast	4 (0.8)	3 (1.5)	27 (4.1)	24 (3.8)	64 (4.8)	67 (3.7)	36 (4.8)	33 (3.7)
Southeast	2 (1.0)	1 (0.4)	16 (2.6)	14 (2.3)	47 (3.4)	50 (3.3)	53 (3.4)	50 (3.3)
Central	3 (1.0)	1 (0.7)	23 (3.4)	17 (2.9)	61 (3.2)	62 (3.2)	39 (3.2)	38 (3.2)
West	3 (1.0)	3 (1.1)	19 (3.2)	17 (2.4)	58 (3.6)	55 (3.1)	42 (3.6)	45 (3.1)
STATES								
Alabama	1 (0.3)	1 (0.4)	13 (1.2)	10 (1.2)	48 (1.9)	46 (1.9)	52 (1.9)	54 (1.9)
Arizona	2 (0.5)	1 (0.5)	18 (1.5)	14 (1.6)	58 (2.1)	51 (2.2)	42 (2.1)	49 (2.2)
Arkansas	1 (0.4)	0 (0.2)	14 (1.2)	11 (1.2)	52 (1.7)	50 (1.9)	48 (1.7)	50 (1.9)
California	2 (0.4)	2 (0.4)	17 (1.7)	15 (1.5)	52 (2.2)	50 (1.5)	48 (2.2)	50 (1.5)
Colorado	3 (0.6)	2 (0.6)	23 (1.2)	20 (1.7)	66 (1.6)	63 (1.8)	34 (1.6)	37 (1.8)
Connecticut	4 (0.7)	3 (0.5)	28 (1.6)	25 (1.5)	67 (1.7)	65 (1.7)	33 (1.7)	35 (1.7)
Delaware	2 (0.7)	2 (0.5)	20 (1.3)	18 (1.8)	53 (1.9)	56 (2.0)	47 (1.9)	44 (2.0)
Dist. Columbia	1 (0.4)	1 (0.3)	3 (0.8)	4 (0.9)	20 (1.6)	22 (1.3)	80 (1.6)	78 (1.3)
Florida	2 (0.6)	1 (0.4)	17 (1.2)	12 (1.3)	50 (1.9)	48 (1.9)	50 (1.9)	52 (1.9)
Georgia	3 (0.7)	2 (0.5)	18 (1.7)	16 (1.4)	54 (1.7)	53 (2.0)	46 (1.7)	47 (2.0)
Hawaii	2 (0.5)	2 (0.4)	14 (0.9)	15 (1.5)	42 (1.4)	49 (1.7)	58 (1.4)	51 (1.7)
Idaho	2 (0.5)	1 (0.4)	25 (2.0)	20 (1.5)	71 (1.3)	69 (1.6)	29 (1.3)	31 (1.6)
Indiana	4 (0.9)	2 (0.6)	23 (1.8)	18 (1.5)	65 (1.7)	61 (2.1)	35 (1.7)	39 (2.1)
Iowa	5 (0.8)	3 (0.5)	34 (1.8)	27 (2.0)	77 (1.2)	75 (1.6)	23 (1.2)	25 (1.6)
Kentucky	2 (0.5)	1 (0.3)	15 (1.4)	12 (1.1)	52 (2.0)	49 (2.2)	48 (2.0)	51 (2.2)
Louisiana	1 (0.4)	0 (0.2)	9 (1.3)	6 (0.9)	40 (1.9)	37 (2.1)	60 (1.9)	63 (2.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	4 (0.7)	2 (0.6)	21 (1.4)	19 (1.5)	56 (1.8)	56 (2.3)	44 (1.8)	44 (2.3)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	3 (0.6)	2 (0.5)	21 (1.7)	18 (1.6)	61 (1.7)	60 (1.9)	39 (1.7)	40 (1.9)
Minnesota	5 (0.6)	3 (0.6)	30 (1.3)	27 (1.7)	73 (1.6)	75 (1.7)	27 (1.6)	25 (1.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	5 (0.8)	3 (0.7)	31 (2.0)	28 (2.0)	74 (1.5)	74 (1.7)	26 (1.5)	26 (1.7)
New Hampshire	3 (0.7)	3 (0.8)	24 (1.6)	26 (1.8)	71 (2.1)	71 (1.9)	29 (2.1)	29 (1.9)
New Jersey	5 (0.9)	3 (0.5)	27 (1.7)	24 (1.6)	66 (2.3)	63 (1.7)	34 (2.3)	37 (1.7)
New Mexico	2 (0.5)	1 (0.4)	15 (1.4)	11 (1.3)	54 (1.9)	47 (1.6)	46 (1.9)	53 (1.6)
New York	4 (0.8)	2 (0.4)	21 (1.5)	17 (1.2)	57 (2.0)	56 (2.1)	43 (2.0)	44 (2.1)
North Carolina	1 (0.4)	1 (0.4)	12 (1.0)	11 (1.2)	44 (1.8)	44 (1.8)	56 (1.8)	56 (1.8)
North Dakota	6 (1.0)	2 (0.7)	37 (2.4)	31 (2.5)	83 (2.1)	79 (2.1)	17 (2.1)	21 (2.1)
Ohio	2 (0.5)	1 (0.4	21 (1.6)	16 (1.4)	63 (1.6)	56 (1.8)	37 (1.6)	44 (1.8)
Oklahoma	2 (0.7)	1 (0.4)	19 (1.6)	14 (1.5)	62 (2.0)	57 (2.2)	38 (2.0)	43 (2.2)
Pennsylvania	3 (0.6)	2 (0.4)	25 (1.8)	18 (1.7)	66 (2.2)	60 (2.5)	34 (2.2)	40 (2.5)
Rhode Island	2 (0.6)	1 (0.3)	20 (1.4)	17 (1.3)	56 (1.3)	54 (1.3)	44 (1.3)	46 (1.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	3 (0.6)	1 (0.4)	17 (1.7)	14 (1.3)	54 (2.3)	50 (2.0)	46 (2.3)	50 (2.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	5 (1.0)	3 (0.8)	22 (2.1)	19 (1.6)	59 (2.0)	57 (1.7)	41 (2.0)	43 (1.7)
West Virginia	1 (0.4)	1 (0.3)	13 (1.2)	11 (1.0)	50 (1.9)	49 (1.7)	50 (1.9)	51 (1.7)
Wisconsin	4 (0.9)	3 (0.6)	30 (1.7)	28 (2.1)	73 (1.8)	72 (2.2)	27 (1.8)	28 (2.2)
Wyoming	3 (0.6)	1 (0.5)	27 (1.3)	20 (1.3)	73 (1.5)	69 (1.8)	27 (1.5)	31 (1.8)
TERRITORIES								
Guam	1 (0.4)	0 (0.1)	6 (0.9)	5 (1.2)	28 (2.1)	26 (1.8)	72 (2.1)	74 (1.8)
Virgin Islands	0 (0.2)	0 (0.0)	1 (0.8)	1 (0.2)	12 (1.6)	9 (1.3)	88 (1.6)	91 (1.3)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE 2.8 Average Mathematics Proficiency and Achievement Levels by Type of Community, Grades 4, 8, and 12

				Percentage of Students At or Above			
	Assessment Years	**Percentage of Students**	**Average Proficiency**	**Advanced**	**Proficient**	**Basic**	**Percentage Below Basic**
Grade 4							
Advantaged Urban	1992	12 (1.8)	237 (2.1)	7 (1.8)	36 (3.1)	81 (2.2)	**19 (2.2)**
	1990	11 (2.5)	231 (3.0)!	4 (1.5)	29 (4.8)	77 (3.4)	**23 (3.4)**
Disadvantaged Urban	1992	9 (1.4)	193 (2.8)	0 (0.2)	3 (1.0)	27 (3.2)	**73 (3.2)**
	1990	10 (1.5)	195 (3.0)	0 (0.2)	4 (1.2)	31 (4.3)	**69 (4.3)**
Extreme Rural	1992	12 (2.2)	216 (3.6)	1 (0.5)	15 (2.4)	60 (5.1)	**40 (5.1)**
	1990	10 (1.9)	214 (4.9)	1 (1.0)	12 (3.0)	56 (7.3)	**44 (7.3)**
Other	1992	66 (3.0)	219 (0.9)>	2 (0.3)	18 (1.1)>	62 (1.2)>	**38 (1.2)<**
	1990	70 (3.6)	213 (1.1)	1 (0.5)	13 (1.2)	53 (1.6)	**47 (1.6)**
Grade 8							
Advantaged Urban	1992	10 (1.8)	288 (3.6)	10 (2.1)	48 (4.2)>	82 (3.0)	**18 (3.0)**
	1990	11 (2.9)	280 (3.2)!	5 (1.8)	34 (3.2)	78 (3.6)	**22 (3.6)**
Disadvantaged Urban	1992	9 (1.3)	238 (2.6)<	1 (0.3)	6 (1.5)	28 (3.1)<	**72 (3.1)>**
	1990	10 (2.5)	249 (3.8)!	1 (0.7)	11 (3.5)	42 (4.3)	**58 (4.3)**
Extreme Rural	1992	9 (2.6)	267 (4.6)!	2 (1.0)	21 (3.8)	65 (6.2)	**35 (6.2)**
	1990	9 (2.8)	257 (4.4)!	1 (0.7)	14 (3.5)	51 (5.7)	**49 (5.7)**
Other	1992	72 (3.1)	268 (1.1)>	3 (0.5)	24 (1.2)>	64 (1.5)	**36 (1.5)**
	1990	70 (3.9)	262 (1.7)	2 (0.4)	19 (1.2)	58 (2.0)	**42 (2.0)**
Grade 12							
Advantaged Urban	1992	12 (2.1)	316 (2.6)	6 (1.4)	32 (2.9)	82 (2.8)	**18 (2.8)**
	1990	9 (2.8)	306 (6.2)!	4 (1.7)	23 (4.9)	72 (7.4)	**28 (7.4)**
Disadvantaged Urban	1992	10 (1.4)	279 (2.4)	0 (0.4)	6 (1.4)	40 (3.0)	**60 (3.0)**
	1990	10 (2.7)	276 (6.0)!	0 (0.2)	5 (2.6)	36 (7.7)	**64 (7.7)**
Extreme Rural	1992	12 (1.6)	293 (1.9)	0 (0.3)	10 (1.6)	56 (2.6)	**44 (2.6)**
	1990	10 (3.2)	293 (3.3)!	1 (0.6)	11 (1.6)	58 (5.6)	**42 (5.6)**
Other	1992	66 (3.0)	300 (0.9)>	2 (0.3)	16 (1.0)	66 (1.2)	**34 (1.2)**
	1990	71 (4.4)	295 (1.3)	2 (0.3)	13 (1.1)	61 (1.6)	**39 (1.6)**

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. ! Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 2.9 | Average Mathematics Proficiency by Type of Community

PUBLIC SCHOOLS	Grade 4 - 1992							
	Advantaged Urban		Disadvantaged Urban		Extreme Rural		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	9 (1.8)	240 (3.0)!	10 (1.5)	193 (2.9)	13 (2.4)	216 (3.6)	67 (3.2)	218 (1.0)
Northeast	20 (5.5)	243 (3.3)!	16 (5.5)	206 (3.6)!	4 (1.2)	*** (***)	60 (8.0)	220 (2.4)
Southeast	5 (3.0)	240 (6.4)!	13 (3.5)	190 (4.4)!	19 (6.9)	203 (6.1)!	63 (7.6)	212 (2.0)
Central	5 (2.1)	235 (13.4)!	9 (1.9)	188 (4.0)!	16 (3.4)	228 (3.7)!	70 (4.1)	224 (1.5)
West	8 (3.7)	239 (9.1)!	5 (1.3)	180 (7.4)!	13 (4.7)	216 (3.5)!	74 (5.7)	217 (1.9)
STATES								
Alabama	11 (3.1)	231 (5.1)!	13 (3.2)	192 (2.9)!	14 (4.0)	204 (3.8)!	62 (5.6)	208 (2.1)
Arizona	13 (3.9)	230 (3.4)!	10 (3.0)	209 (5.0)!	8 (3.3)	206 (5.0)!	69 (5.5)	212 (2.0)
Arkansas	1 (1.2)	*** (***)	6 (1.5)	195 (2.7)!	25 (4.1)	209 (2.6)	68 (4.7)	210 (1.4)
California	12 (2.5)	232 (2.7)!	23 (3.7)	187 (3.4)	1 (0.3)	*** (***)	65 (4.6)	210 (2.1)
Colorado	18 (3.2)	233 (1.6)	13 (2.9)	203 (2.6)!	13 (2.7)	218 (2.2)!	57 (5.0)	219 (1.5)
Connecticut	19 (4.2)	238 (2.3)!	15 (3.0)	196 (3.8)!	0 (0.0)	*** (***)	66 (5.0)	231 (1.4)
Delaware	10 (0.2)	218 (4.1)	8 (0.2)	207 (4.9)	24 (0.1)	214 (1.0)	58 (0.3)	219 (1.1)
Dist. Columbia	20 (0.3)	212 (1.4)	60 (0.4)	185 (0.9)	0 (0.0)	*** (***)	20 (0.3)	195 (1.6)
Florida	18 (4.4)	231 (2.8)!	21 (3.9)	193 (2.9)	4 (1.3)	207 (6.2)!	57 (4.5)	214 (1.5)
Georgia	10 (3.4)	239 (2.3)!	15 (4.6)	195 (3.1)!	12 (3.6)	215 (2.7)!	63 (6.2)	214 (1.9)
Hawaii	12 (3.6)	227 (3.3)!	9 (1.8)	194 (3.1)!	5 (1.9)	207 (3.8)!	75 (4.3)	214 (1.6)
Idaho	9 (2.6)	235 (2.0)!	1 (0.9)	*** (***)	33 (4.9)	219 (1.2)	56 (5.5)	220 (1.5)
Indiana	8 (2.7)	235 (1.9)!	10 (2.8)	199 (3.4)!	15 (3.3)	223 (1.8)!	66 (4.9)	220 (1.3)
Iowa	7 (2.9)	241 (2.3)!	6 (2.5)	219 (4.6)!	41 (3.5)	229 (1.4)	46 (4.2)	229 (1.9)
Kentucky	6 (2.7)	233 (2.0)!	11 (2.7)	208 (4.1)!	24 (4.2)	215 (1.5)	60 (4.8)	212 (1.6)
Louisiana	5 (2.3)	226 (3.0)!	18 (2.5)	184 (3.9)	11 (2.7)	205 (4.4)!	65 (3.9)	205 (2.0)
Maine	2 (1.6)	*** (***)	2 (1.3)	*** (***)	19 (4.7)	231 (2.8)!	77 (4.9)	231 (1.4)
Maryland	20 (3.6)	231 (3.6)	16 (4.0)	191 (5.7)!	5 (2.1)	222 (3.2)!	59 (4.9)	216 (1.5)
Massachusetts	16 (3.4)	243 (3.0)!	14 (2.7)	200 (2.9)	1 (0.9)	*** (***)	68 (4.2)	229 (1.5)
Michigan	10 (3.0)	240 (3.3)!	15 (3.7)	190 (5.0)!	10 (3.6)	220 (3.3)!	65 (5.1)	224 (1.7)
Minnesota	12 (3.9)	237 (3.3)!	3 (2.2)	*** (***)	29 (3.8)	226 (1.4)	56 (5.4)	226 (1.6)
Mississippi	1 (1.1)	*** (***)	6 (1.9)	190 (3.2)!	11 (2.3)	204 (4.7)	82 (3.2)	200 (1.3)
Missouri	9 (3.0)	239 (4.0)!	11 (2.9)	192 (4.3)!	26 (3.9)	222 (1.7)	53 (5.3)	223 (1.6)
Nebraska	8 (2.7)	238 (2.1)!	6 (1.4)	205 (2.9)!	26 (3.9)	225 (2.8)	59 (4.8)	223 (1.8)
New Hampshire	8 (3.5)	235 (3.0)!	1 (1.3)	*** (***)	4 (1.8)	232 (4.3)!	86 (4.0)	229 (1.4)
New Jersey	30 (4.3)	242 (1.8)	17 (3.3)	196 (4.3)!	1 (1.0)	*** (***)	53 (5.0)	229 (1.7)
New Mexico	11 (5.7)	230 (2.5)!	9 (2.9)	198 (3.6)!	4 (2.0)	203 (6.5)!	77 (6.1)	210 (1.7)
New York	15 (3.7)	231 (2.7)!	24 (5.3)	199 (2.6)	2 (1.6)	*** (***)	58 (4.7)	222 (2.6)
North Carolina	5 (1.6)	233 (1.9)!	4 (1.9)	200 (6.0)!	19 (4.0)	208 (3.0)!	71 (4.6)	211 (1.4)
North Dakota	11 (3.1)	237 (2.6)!	2 (1.4)	*** (***)	43 (3.6)	226 (1.3)	44 (4.3)	226 (1.1)
Ohio	10 (2.6)	237 (2.3)!	18 (2.6)	197 (3.2)	17 (3.9)	216 (2.3)!	55 (4.8)	222 (1.6)
Oklahoma	9 (3.1)	230 (3.9)!	10 (2.6)	213 (3.8)!	21 (3.6)	220 (2.2)	60 (4.6)	219 (1.4)
Pennsylvania	15 (4.9)	237 (4.4)!	17 (3.4)	196 (3.7)	14 (3.8)	230 (1.5)!	54 (5.6)	226 (1.5)
Rhode Island	12 (4.0)	236 (3.0)!	24 (4.9)	192 (3.0)!	0 (0.0)	*** (***)	64 (5.7)	219 (1.9)
South Carolina	6 (2.2)	231 (3.3)!	6 (1.5)	195 (2.6)!	13 (3.1)	205 (2.9)!	74 (4.0)	212 (1.4)
Tennessee	6 (2.7)	228 (4.4)!	13 (3.6)	189 (3.4)!	10 (2.8)	206 (4.3)!	71 (4.6)	212 (1.6)
Texas	10 (3.2)	242 (3.1)!	21 (4.8)	208 (3.9)!	13 (3.3)	223 (2.7)!	56 (6.3)	214 (1.9)
Utah	20 (3.6)	233 (2.0)	3 (1.7)	206 (3.5)!	7 (2.6)	220 (3.2)!	70 (4.4)	222 (1.3)
Virginia	13 (3.1)	235 (3.5)!	14 (3.1)	200 (2.5)!	13 (2.7)	212 (2.3)!	59 (4.7)	220 (2.2)
West Virginia	2 (1.4)	*** (***)	8 (2.5)	209 (3.3)!	16 (3.6)	213 (2.2)!	75 (4.6)	214 (1.4)
Wisconsin	9 (2.6)	242 (4.1)!	7 (2.4)	206 (4.6)!	26 (5.0)	229 (1.8)	58 (5.3)	229 (1.4)
Wyoming	7 (2.1)	232 (3.7)!	4 (1.8)	214 (2.5)!	20 (3.4)	229 (2.1)	69 (4.5)	224 (1.3)
TERRITORY								
Guam	0 (0.0)	*** (***)	0 (0.0)	*** (***)	19 (0.1)	183 (2.3)	81 (0.1)	195 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 2.9 | Average Mathematics Proficiency by Type of Community (continued)

	Grade 8 - 1992							
	Advantaged Urban		Disadvantaged Urban		Extreme Rural		Other	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	8 (2.2)	285 (4.6)!	9 (1.5)	239 (2.7)	10 (2.8)	267 (4.6)!	72 (3.5)	268 (1.2)
Northeast	12 (6.5)	292 (6.7)!	12 (3.7)	234 (2.3)!	7 (4.8)	*** (***)	69 (8.2)	267 (2.9)
Southeast	5 (3.5)	272 (2.2)!	9 (2.5)	238 (6.9)!	16 (7.2)	255 (4.6)!	69 (7.9)	260 (1.5)
Central	8 (2.4)	285 (7.0)!	9 (3.0)	236 (5.6)!	9 (6.0)	281 (4.3)!	74 (6.9)	275 (1.9)
West	7 (4.0)	284(11.2)!	9 (3.2)	246 (4.6)!	8 (4.0)	264 (5.2)!	76 (5.3)	268 (2.5)
STATES								
Alabama	4 (2.4)	261 (7.4)!	16 (3.5)	237 (4.9)!	15 (3.2)	254 (1.8)!	65 (4.7)	254 (2.4)
Arizona	15 (5.3)	279 (3.8)!	14 (3.1)	251 (4.0)!	7 (2.2)	255 (8.7)!	64 (5.8)	264 (1.7)
Arkansas	2 (1.4)	*** (***)	5 (1.9)	236 (6.9)!	16 (3.9)	261 (2.3)!	76 (4.4)	255 (1.3)
California	8 (3.2)	290 (6.5)!	19 (3.2)	236 (3.5)	3 (1.9)	*** (***)	71 (5.1)	264 (1.9) >
Colorado	18 (3.5)	283 (2.0)	10 (2.3)	253 (2.8)!	13 (2.9)	272 (2.9)!	60 (4.9)	272 (1.6) >
Connecticut	10 (3.5) «	283 (4.9)!	17 (3.3)	243 (3.5)	0 (0.0)	*** (***)	72 (4.4) >	279 (1.6) »
Delaware	0 (0.0)	*** (***)	0 (0.0)	*** (***)	11 (0.1) «	263 (2.1)	89 (0.1) »	262 (1.2)
Dist. Columbia	7 (0.3) «	252 (2.9)	67 (0.4)	225 (1.3)	0 (0.0)	*** (***)	25 (0.4) »	252 (2.1) »
Florida	7 (2.9)	271 (5.2)!	17 (3.5)	249 (5.8)!	6 (2.1)	255 (5.5)!	69 (4.9)	261 (2.0)
Georgia	6 (1.9)	274 (5.8)!	10 (2.9)	247 (3.7)!	9 (2.2)	246 (1.4)!	74 (4.0)	260 (1.6)
Hawaii	5 (0.1) «	255 (2.6) «	16 (0.4)	240 (2.1)	1 (0.0)	*** (***)	78 (0.4) »	259 (1.4) »
Idaho	4 (2.2)	288 (3.5)!	5 (2.4)	279 (5.1)!	29 (4.3)	274 (1.8) >	62 (5.0)	274 (0.7)
Indiana	5 (2.3)	286 (5.5)!	11 (2.4)	244 (2.0)!	13 (2.6)	269 (2.8)	71 (4.3)	273 (1.4)
Iowa	4 (2.3)	291 (7.2)!	3 (1.0)	271 (4.0)!	44 (5.4)	287 (1.5) »	49 (5.7)	280 (1.4)
Kentucky	3 (1.1)	286 (6.2)! >	12 (3.3)	252 (3.4)!	15 (3.7) <	262 (2.4)! >	70 (5.1) >	262 (1.5)
Louisiana	2 (1.6)	*** (***)	19 (3.2)	227 (3.9)	7 (3.0)	254 (3.7)! »	72 (4.3)	253 (1.9)
Maine	1 (1.5)	*** (***)	2 (1.6)	*** (***)	19 (4.1)	276 (1.8)!	78 (4.5)	278 (1.3)
Maryland	21 (3.8)	283 (3.4)	13 (3.5)	240 (7.3)!	3 (2.6)	*** (***)	63 (5.6)	266 (2.5)
Massachusetts	7 (2.3)	300 (4.9)!	23 (3.5)	247 (3.0)	1 (1.3)	*** (***)	69 (4.3)	277 (1.8)
Michigan	7 (3.0)	290 (6.5)!	19 (3.1)	237 (3.4)	14 (3.8)	273 (2.7)!	60 (5.2)	270 (1.5)
Minnesota	7 (3.6) <	290 (6.0)!	0 (0.0)	*** (***)	20 (4.2)	280 (2.1)!	72 (5.2) >	282 (1.4)
Mississippi	3 (1.8)	*** (***)	6 (2.7)	240 (5.4)!	12 (3.1)	245 (4.2)!	79 (4.6)	245 (1.6)
Missouri	7 (2.8)	278 (3.2)!	12 (2.4)	252 (5.1)!	13 (3.6)	270 (2.5)!	68 (4.8)	272 (1.3)
Nebraska	0 (0.0)	*** (***)	6 (0.9)	250 (4.1)	28 (4.3)	281 (2.4)	66 (4.5) >	276 (1.4) >
New Hampshire	4 (1.6) <	294 (2.9)! >	0 (0.0)	*** (***)	5 (2.3)	281 (2.1)!	92 (2.8)	277 (1.1)
New Jersey	8 (2.8) «	296 (3.4)!	24 (3.3)	237 (3.3)	3 (2.3)	*** (***)	64 (4.7)	280 (1.5) »
New Mexico	5 (0.2)	282 (2.3)	6 (2.6)	251 (3.1)!	6 (2.8) «	256 (7.3)!	84 (3.8) >	259 (1.1) >
New York	11 (3.3)	292 (3.5)! >	16 (5.1)	230 (4.8)!	10 (3.5)	277 (2.4)!	63 (6.7)	270 (2.8)
North Carolina	3 (1.0)	281(12.8)!	5 (2.2)	243 (5.8)!	12 (3.8)	251 (3.7)!	80 (4.3)	258 (1.5) >
North Dakota	8 (1.8)	286 (2.0)!	0 (0.0)	*** (***)	39 (4.1)	282 (1.8)	53 (3.9)	281 (1.4)
Ohio	6 (2.7)	296 (4.8)! >	17 (3.2)	247 (3.0)	21 (5.5)	277 (2.7)! >	56 (6.3)	269 (2.1)
Oklahoma	2 (1.8)	*** (***)	5 (2.5)	269 (2.7)! »	19 (4.1)	265 (2.4)!	74 (5.1)	269 (1.5)
Pennsylvania	4 (2.1) <	289 (5.5)!	15 (3.5)	245 (5.1)!	13 (3.7)	277 (4.0)!	68 (5.0)	275 (1.3) »
Rhode Island	7 (0.1) «	285 (2.4) >	12 (0.1) <	242 (2.4)	0 (0.0)	*** (***)	81 (0.1) »	268 (0.9) »
South Carolina	3 (1.7)	276 (2.8)!	6 (2.2)	246 (5.7)!	4 (1.8)	270 (2.5)!	87 (3.3)	259 (1.2)
Tennessee	5 (3.3)	279 (2.8)!	7 (2.6)	231 (9.2)!	6 (2.4)	259 (2.1)!	82 (4.0)	259 (1.6)
Texas	10 (2.9)	291 (2.6)! »	18 (3.9)	247 (2.2)!	6 (2.6)	264 (6.5)!	67 (5.5)	264 (1.8) >
Utah	13 (2.4)	283 (2.8)	5 (2.2)	268 (2.6)!	10 (2.4)	270 (1.8)!	72 (3.9)	273 (1.0)
Virginia	9 (2.4) <	284 (3.4)!	13 (3.0) >	250 (3.8)!	14 (4.3)	260 (4.5)!	63 (5.4)	265 (1.6)
West Virginia	1 (0.9)	*** (***)	10 (1.9)	256 (1.8)	13 (3.4)	257 (2.6)!	76 (3.7)	259 (1.2)
Wisconsin	11 (5.5)	291 (5.7)!	5 (1.7)	240 (4.0)!	25 (5.4)	282 (2.5)!	59 (6.4)	277 (1.6)
Wyoming	0 (0.0)	*** (***)	10 (2.6)	273 (5.5)!	13 (2.9) «	276 (2.5)!	76 (3.8)	275 (0.9)
TERRITORIES								
Guam	0 (0.0)	*** (***)	0 (0.0)	*** (***)	11 (0.2) «	216 (3.6) «	89 (0.2) »	237 (1.2) »
Virgin Islands	0 (0.0)	*** (***)	0 (0.0)	*** (***)	27 (0.2) »	215 (2.4)	73 (0.2) «	218 (1.3)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 2.9 | Average Mathematics Proficiency by Type of Community (continued)

PUBLIC SCHOOLS	Advantaged Urban		Disadvantaged Urban		Extreme Rural		Other	
	Grade 8 - 1990							
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	10 (3.3)	281 (4.2)!	10 (2.8)	250 (3.8)!	10 (3.0)	256 (4.5)!	70 (4.4)	262 (1.8)
Northeast	23 (7.3)	280 (8.9)!	8 (5.7)	244(12.8)!	14(10.3)	*** (***)	55(11.2)	273 (3.5)
Southeast	0 (0.0)	*** (***)	2 (2.3)	*** (***)	9 (5.3)	251(15.6)!	89 (5.8)	254 (2.8)
Central	3 (3.1)	*** (***)	10 (4.3)	237 (2.6)!	8 (6.0)	*** (***)	79 (7.7)	267 (3.3)
West	14 (8.5)	282 (4.0)!	19 (7.5)	256 (6.5)!	10 (3.8)	251 (9.3)!	58(10.1)	258 (3.4)
STATES								
Alabama	10 (2.8)	267 (4.9)!	12 (3.0)	247 (3.0)!	12 (3.5)	247 (3.6)!	66 (5.3)	253 (1.7)
Arizona	13 (2.7)	274 (2.7)!	16 (4.0)	247 (4.0)!	8 (3.0)	247 (6.9)!	63 (4.7)	259 (2.2)
Arkansas	5 (2.1)	270 (4.0)!	6 (2.1)	239 (4.6)!	24 (3.3)	255 (1.9)	65 (4.4)	258 (1.1)
California	16 (4.5)	278 (3.8)!	18 (4.5)	242 (4.1)!	0 (0.0)	*** (***)	65 (5.9)	256 (1.8)
Colorado	29 (3.9)	280 (1.9)	6 (2.4)	247 (6.1)!	15 (3.0)	268 (2.1)	50 (4.9)	265 (1.5)
Connecticut	33 (3.4)	285 (1.7)	14 (2.4)	239 (3.0)	0 (0.0)	*** (***)	53 (3.7)	269 (1.3)
Delaware	8 (0.1)	282 (1.3)	0 (0.0)	*** (***)	21 (0.2)	259 (1.5)	71 (0.2)	259 (1.1)
Dist. Columbia	17 (0.2)	258 (3.2)	67 (0.2)	225 (0.8)	0 (0.0)	*** (***)	17 (0.1)	234 (2.4)
Florida	15 (3.7)	270 (2.4)!	18 (3.2)	242 (1.6)	8 (1.9)	250 (3.2)!	59 (4.6)	256 (2.1)
Georgia	14 (3.4)	285 (2.5)!	8 (2.5)	247 (4.5)!	18 (3.3)	252 (2.1)	60 (5.0)	257 (1.7)
Hawaii	10 (0.1)	269 (2.6)	16 (0.2)	236 (2.2)	0 (0.0)	*** (***)	74 (0.2)	253 (0.9)
Idaho	4 (0.1)	*** (***)	3 (0.1)	*** (***)	27 (1.9)	269 (1.1)	67 (1.8)	272 (1.1)
Indiana	13 (3.5)	280 (4.0)!	8 (3.0)	244 (6.2)!	17 (2.5)	267 (2.5)	62 (5.3)	269 (1.3)
Iowa	6 (2.1)	294 (5.7)!	4 (2.3)	261 (1.4)!	37 (3.9)	279 (1.5)	53 (4.8)	277 (1.7)
Kentucky	7 (2.2)	269 (2.4)!	10 (2.8)	248 (3.1)!	33 (3.9)	253 (1.8)	49 (5.0)	259 (1.4)
Louisiana	8 (3.1)	267 (4.2)!	23 (4.1)	236 (3.6)	14 (3.3)	237 (2.9)!	54 (5.8)	250 (1.9)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	28 (4.0)	277 (4.0)	18 (3.4)	234 (3.5)!	4 (1.6)	256 (4.9)!	50 (4.4)	261 (2.3)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	17 (3.7)	283 (2.2)!	13 (3.4)	236 (2.9)!	13 (2.5)	267 (2.6)	56 (4.8)	267 (1.7)
Minnesota	24 (3.3)	277 (1.5)	0 (0.0)	*** (***)	29 (4.6)	275 (1.6)	47 (5.3)	278 (1.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	9 (0.6)	285 (3.1)	4 (0.1)	*** (***)	39 (3.1)	278 (2.2)	49 (2.9)	271 (1.2)
New Hampshire	8 (0.5)	280 (3.6)	0 (0.0)	*** (***)	3 (0.6)	279 (5.6)!	89 (0.8)	274 (0.9)
New Jersey	30 (4.5)	286 (2.8)	18 (2.5)	238 (2.7)	0 (0.0)	*** (***)	52 (4.8)	270 (1.7)
New Mexico	5 (0.1)	284 (3.8)	7 (0.1)	257 (3.1)	18 (0.9)	253 (1.9)	70 (0.9)	255 (0.9)
New York	15 (3.6)	281 (2.6)!	29 (4.6)	238 (2.7)	3 (1.2)	277 (1.6)!	53 (5.4)	269 (1.6)
North Carolina	4 (2.2)	268 (5.8)!	4 (1.8)	242(10.1)!	17 (3.3)	244 (2.4)	75 (4.3)	251 (1.3)
North Dakota	9 (0.4)	285 (2.4)	3 (0.4)	*** (***)	37 (2.5)	280 (2.5)	50 (2.3)	282 (1.4)
Ohio	14 (3.3)	280 (2.0)!	13 (1.7)	242 (3.4)	10 (2.2)	267 (2.3)!	63 (4.2)	264 (1.2)
Oklahoma	11 (2.9)	280 (2.6)!	9 (2.9)	250 (2.8)!	22 (3.5)	257 (3.1)	59 (5.2)	265 (1.6)
Pennsylvania	12 (2.4)	288 (2.5)!	14 (3.3)	245 (5.5)!	7 (2.7)	268 (3.2)!	67 (4.3)	267 (1.5)
Rhode Island	19 (0.4)	277 (1.7)	17 (1.7)	245 (2.1)	0 (0.0)	*** (***)	63 (1.4)	259 (0.8)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	15 (3.4)	276 (2.9)!	17 (3.8)	246 (2.3)!	9 (2.8)	265 (3.2)!	59 (5.3)	257 (1.9)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	25 (3.9)	283 (3.7)	4 (1.3)	244 (5.0)!	11 (1.7)	248 (2.8)	60 (4.3)	261 (1.8)
West Virginia	0 (0.0)	*** (***)	11 (2.7)	258 (2.0)!	19 (4.0)	255 (1.0)!	70 (4.8)	256 (1.3)
Wisconsin	7 (2.4)	289 (4.2)!	10 (2.2)	244 (3.9)!	24 (3.2)	279 (1.8)	60 (4.1)	276 (1.3)
Wyoming	0 (0.0)	*** (***)	0 (0.0)	*** (***)	27 (0.8)	276 (1.3)	73 (0.8)	272 (0.9)
TERRITORIES								
Guam	0 (0.0)	*** (***)	0 (0.0)	*** (***)	26 (0.1)	235 (1.4)	74 (0.1)	231 (0.9)
Virgin Islands	0 (0.0)	*** (***)	0 (0.0)	*** (***)	19 (0.2)	209 (1.9)	81 (0.2)	221 (0.9)

(xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.10 | Achievement Levels by Type of Community

PUBLIC SCHOOLS	Grade 4 - 1992							
	Percentage of Students At or Above Advanced				Percentage of Students At or Above Proficient			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	10 (2.4)!	0 (0.2)	1 (0.5)	2 (0.3)	41 (4.5)!	3 (1.0)	15 (2.3)	17 (1.2)
Northeast	10 (3.4)!	1 (0.3)!	*** (***)	2 (0.7)	44 (5.7)!	6 (2.1)!	*** (***)	21 (3.4)
Southeast	8 (3.7)!	0 (0.3)!	1 (0.7)!	1 (0.4)	40 (8.1)!	3 (1.3)!	8 (3.5)!	11 (1.5)
Central	7 (5.0)!	0 (0.0)!	2 (1.3)!	2 (0.7)	42(13.4)!	1 (0.4)!	22 (4.9)!	21 (2.1)
West	11 (9.2)!	0 (0.0)!	0 (0.0)!	2 (0.5)	36(13.5)!	0 (0.5)!	13 (4.0)!	17 (2.2)
STATES								
Alabama	3 (1.6)!	0 (0.0)!	0 (0.2)!	1 (0.3)	30 (7.0)!	3 (0.9)!	7 (1.9)!	10 (1.5)
Arizona	3 (1.3)!	1 (0.5)!	1 (0.8)!	1 (0.3)	26 (4.1)!	8 (2.6)!	9 (2.4)!	12 (1.5)
Arkansas	*** (***)	0 (0.7)!	0 (0.3)	1 (0.3)	*** (***)	3 (2.1)!	9 (1.8)	11 (1.1)
California	5 (1.7)!	0 (0.2)	*** (***)	2 (0.6)	30 (4.4)!	4 (1.1)	*** (***)	13 (1.3)
Colorado	6 (1.6)	1 (0.4)!	1 (0.9)!	1 (0.4)	31 (2.5)	7 (2.4)!	17 (3.3)!	17 (1.4)
Connecticut	6 (2.0)!	1 (0.5)!	*** (***)	4 (0.8)	36 (3.5)!	5 (2.1)!	*** (***)	28 (2.0)
Delaware	3 (1.5)	0 (0.3)	1 (0.4)	3 (0.7)	20 (4.7)	8 (1.6)	12 (1.5)	20 (1.2)
Dist. Columbia	4 (1.2)	0 (0.1)	*** (***)	2 (0.6)	17 (1.1)	2 (0.3)	*** (***)	8 (0.7)
Florida	5 (1.7)!	0 (0.3)	0 (0.0)!	1 (0.3)	29 (4.1)!	4 (1.2)	8 (7.2)!	13 (1.6)
Georgia	5 (1.9)!	0 (0.2)!	1 (0.9)!	1 (0.3)	37 (5.3)!	4 (1.7)!	14 (2.8)!	15 (1.6)
Hawaii	4 (1.2)!	1 (0.6)!	0 (0.5)!	1 (0.5)	29 (3.3)!	5 (2.5)!	10 (4.1)!	15 (1.3)
Idaho	3 (2.1)!	*** (***)	1 (0.6)	1 (0.4)	29 (4.0)!	*** (***)	15 (1.7)	16 (1.3)
Indiana	4 (1.8)!	0 (0.0)!	1 (0.6)!	2 (0.4)	31 (3.0)!	4 (1.4)!	16 (2.4)!	16 (1.4)
Iowa	9 (2.4)!	1 (1.1)!	2 (0.5)	3 (0.7)	41 (4.4)!	17 (2.7)!	27 (2.0)	27 (2.3)
Kentucky	7 (4.1)!	0 (0.3)!	2 (0.8)	1 (0.4)	33 (3.7)!	9 (3.2)!	12 (1.6)	12 (1.6)
Louisiana	1 (1.2)!	0 (0.3)	0 (0.4)!	0 (0.2)	23 (3.7)!	3 (0.9)	6 (2.1)!	8 (1.0)
Maine	*** (***)	*** (***)	3 (1.8)!	3 (0.7)	*** (***)	*** (***)	28 (3.8)!	28 (2.0)
Maryland	6 (1.5)	0 (0.4)!	3 (2.0)!	2 (0.6)	34 (4.0)	4 (1.8)!	19 (4.2)!	17 (1.7)
Massachusetts	8 (2.4)!	1 (0.5)	*** (***)	3 (0.5)	41 (5.5)!	6 (2.1)	*** (***)	25 (1.8)
Michigan	4 (2.5)!	0 (0.0)	1 (0.8)!	2 (0.6)	41 (6.0)!	4 (1.9)!	14 (3.5)!	21 (2.0)
Minnesota	6 (2.3)!	*** (***)	2 (0.6)	3 (0.6)	38 (5.3)!	*** (***)	24 (1.8)	26 (1.9)
Mississippi	*** (***)	0 (0.0)!	1 (0.6)	0 (0.2)	*** (***)	0 (0.4)!	7 (2.9)	7 (0.7)
Missouri	6 (2.1)!	0 (0.3)!	2 (0.8)	1 (0.4)	40 (7.9)!	3 (2.1)!	18 (1.7)	20 (2.1)
Nebraska	5 (2.1)!	0 (0.0)!	2 (1.0)	3 (0.8)	39 (3.3)!	11 (4.1)!	21 (3.1)	22 (2.4)
New Hampshire	7 (2.6)!	*** (***)	4 (2.1)!	3 (0.7)	34 (5.2)!	*** (***)	29 (6.3)!	26 (1.9)
New Jersey	6 (1.7)	1 (0.6)!	*** (***)	3 (1.2)	43 (3.6)	5 (2.1)!	*** (***)	24 (1.8)
New Mexico	3 (3.1)!	1 (0.7)!	0 (0.0)!	1 (0.3)	26 (5.3)!	6 (2.1)!	2 (2.9)!	10 (1.5)
New York	5 (1.6)!	0 (0.4)	*** (***)	2 (0.6)	29 (3.4)!	7 (1.8)	*** (***)	19 (2.6)
North Carolina	5 (2.3)!	0 (0.3)!	0 (0.3)!	2 (0.5)	33 (3.9)!	6 (3.0)!	10 (1.8)!	13 (1.2)
North Dakota	5 (1.4)!	*** (***)	2 (0.6)	1 (0.5)	35 (4.1)!	*** (***)	21 (1.9)	22 (1.9)
Ohio	5 (1.7)!	0 (0.5)	1 (0.5)!	2 (0.5)	37 (3.1)!	4 (1.1)	12 (2.1)!	19 (1.8)
Oklahoma	2 (1.8)!	1 (0.7)!	1 (0.8)	1 (0.4)	25 (5.9)!	8 (3.3)!	15 (2.6)	15 (1.7)
Pennsylvania	7 (2.4)!	0 (0.2)	3 (0.7)!	2 (0.8)	38 (5.8)!	5 (1.6)	26 (3.3)	23 (1.8)
Rhode Island	6 (3.1)!	0 (0.2)!	*** (***)	2 (0.4)	32 (3.8)!	2 (0.8)!	*** (***)	16 (1.7)
South Carolina	4 (1.0)!	0 (0.0)!	1 (0.5)!	1 (0.4)	28 (6.1)!	2 (2.3)!	8 (2.3)!	14 (1.3)
Tennessee	3 (1.3)!	0 (0.0)!	0 (0.6)!	1 (0.3)	25 (4.4)!	2 (1.0)!	7 (1.8)!	10 (1.3)
Texas	7 (4.1)!	1 (0.9)!	2 (1.5)!	1 (0.7)	42 (4.5)!	11 (3.1)!	19 (3.3)!	13 (1.4)
Utah	4 (1.1)	1 (1.3)!	1 (1.1)!	2 (0.4)	32 (3.2)	9 (3.9)!	18 (3.7)!	18 (1.5)
Virginia	5 (2.0)!	0 (0.3)!	1 (0.5)!	3 (0.7)	31 (4.9)!	4 (1.2)!	10 (2.2)!	20 (2.3)
West Virginia	*** (***)	1 (0.8)!	1 (0.5)!	1 (0.4)	*** (***)	12 (4.3)!	11 (2.1)!	13 (1.4)
Wisconsin	10 (3.3)!	1 (0.9)!	2 (0.8)	3 (0.5)	45 (6.1)!	11 (3.5)!	26 (3.1)	26 (1.9)
Wyoming	2 (1.6)!	0 (1.2)!	2 (0.8)	1 (0.4)	32 (4.0)!	8 (3.0)!	24 (2.7)	19 (1.6)
TERRITORY								
Guam	*** (***)	*** (***)	0 (0.4)	0 (0.2)	*** (***)	*** (***)	2 (0.7)	6 (0.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 2.10 | Achievement Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 4 - 1992							
	Percentage of Students At or Above Basic				Percentage of Students Below Basic			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	82 (3.2)!	27 (3.3)	60 (5.2)	61 (1.4)	18 (3.2)!	73 (3.3)	40 (5.2)	39 (1.4)
Northeast	83 (3.3)!	40 (5.1)!	*** (***)	64 (3.6)	17 (3.3)!	60 (5.1)!	*** (***)	36 (3.6)
Southeast	84 (7.5)!	24 (6.4)!	41 (7.4)!	52 (3.2)	16 (7.5)!	76 (6.4)!	59 (7.4)!	48 (3.2)
Central	78(17.5)!	22 (5.4)!	78 (7.0)!	68 (2.0)	22(17.5)!	78 (5.4)!	22 (7.0)!	32 (2.0)
West	83 (4.9)!	15 (4.0)!	61 (6.4)!	59 (2.8)	17 (4.9)!	85 (4.0)!	39 (6.4)!	41 (2.8)
STATES								
Alabama	77 (5.9)!	24 (3.5)!	42 (5.2)!	46 (3.1)	23 (5.9)!	76 (3.5)!	58 (5.2)!	54 (3.1)
Arizona	79 (4.0)!	49 (7.8)!	45 (5.9)!	52 (2.8)	21 (4.0)!	51 (7.8)!	55 (5.9)!	48 (2.8)
Arkansas	*** (***)	31 (4.9)!	49 (3.6)	50 (1.9)	*** (***)	69 (4.9)!	51 (3.6)	50 (1.9)
California	76 (3.5)!	27 (3.4)	*** (***)	51 (2.7)	24 (3.5)!	73 (3.4)	*** (***)	49 (2.7)
Colorado	76 (2.2)	42 (3.2)!	61 (2.9)!	63 (2.2)	24 (2.2)	58 (3.2)!	39 (2.9)!	37 (2.2)
Connecticut	85 (2.9)!	28 (5.5)!	*** (***)	77 (1.9)	15 (2.9)!	72 (5.5)!	*** (***)	23 (1.9)
Delaware	57 (4.7)	48 (6.9)	53 (2.0)	59 (1.6)	43 (4.7)	52 (6.9)	47 (2.0)	41 (1.6)
Dist. Columbia	49 (2.9)	18 (1.4)	*** (***)	30 (2.5)	51 (2.9)	82 (1.4)	*** (***)	70 (2.5)
Florida	76 (3.1)!	31 (3.1)	48 (6.7)!	56 (2.2)	24 (3.1)!	69 (3.1)	52 (6.7)!	44 (2.2)
Georgia	87 (3.0)!	32 (5.2)!	55 (5.0)!	55 (2.6)	13 (3.0)!	68 (5.2)!	45 (5.0)!	45 (2.6)
Hawaii	70 (4.2)!	32 (3.3)!	47 (4.3)!	54 (2.1)	30 (4.2)!	68 (3.3)!	53 (4.3)!	46 (2.1)
Idaho	84 (2.4)!	*** (***)	61 (2.4)	64 (2.3)	16 (2.4)!	*** (***)	39 (2.4)	36 (2.3)
Indiana	81 (3.3)!	31 (5.4)!	67 (3.1)!	63 (2.2)	19 (3.3)!	69 (5.4)!	33 (3.1)!	37 (2.2)
Iowa	86 (2.5)!	63 (6.1)!	73 (1.8)	75 (2.6)	14 (2.5)!	37 (6.1)!	27 (1.8)	25 (2.6)
Kentucky	76 (6.9)!	46 (6.3)!	54 (2.4)	51 (2.2)	24 (6.9)!	54 (6.3)!	46 (2.4)	49 (2.2)
Louisiana	71 (4.6)!	20 (3.8)	43 (6.8)!	43 (2.8)	29 (4.6)!	80 (3.8)	57 (6.8)!	57 (2.8)
Maine	*** (***)	*** (***)	76 (3.2)!	77 (1.9)	*** (***)	*** (***)	24 (3.2)!	23 (1.9)
Maryland	74 (4.3)	28 (6.2)!	63 (4.3)!	56 (2.1)	26 (4.3)	72 (6.2)!	37 (4.3)!	44 (2.1)
Massachusetts	88 (3.5)!	36 (4.0)	*** (***)	75 (2.1)	12 (3.5)!	64 (4.0)	*** (***)	25 (2.1)
Michigan	88 (1.9)!	26 (5.3)!	65 (5.4)!	69 (2.2)	12 (1.9)!	74 (5.3)!	35 (5.4)!	31 (2.2)
Minnesota	81 (5.5)!	*** (***)	71 (2.5)	70 (2.4)	19 (5.5)!	*** (***)	29 (2.5)	30 (2.4)
Mississippi	*** (***)	28 (5.4)!	43 (5.2)	37 (1.8)	*** (***)	72 (5.4)!	57 (5.2)	63 (1.8)
Missouri	82 (3.7)!	29 (5.2)!	66 (3.0)	66 (2.1)	18 (3.7)!	71 (5.2)!	34 (3.0)	34 (2.1)
Nebraska	85 (3.9)!	44 (4.5)!	69 (4.3)	67 (2.4)	15 (3.9)!	56 (4.5)!	31 (4.3)	33 (2.4)
New Hampshire	80 (4.6)!	*** (***)	79 (7.2)!	74 (1.9)	20 (4.6)!	*** (***)	21 (7.2)!	26 (1.9)
New Jersey	88 (1.8)	31 (6.3)!	*** (***)	74 (2.7)	12 (1.8)	69 (6.3)!	*** (***)	26 (2.7)
New Mexico	74 (3.9)!	36 (6.2)!	43(14.8)!	50 (2.4)	26 (3.9)!	64 (6.2)!	57(14.8)!	50 (2.4)
New York	75 (3.4)!	35 (3.6)	*** (***)	65 (3.4)	25 (3.4)!	65 (3.6)	*** (***)	35 (3.4)
North Carolina	80 (3.0)!	42 (5.7)!	50 (4.5)!	51 (2.0)	20 (3.0)!	58 (5.7)!	50 (4.5)!	49 (2.0)
North Dakota	83 (2.8)!	*** (***)	73 (1.5)	72 (1.9)	17 (2.8)!	*** (***)	27 (1.5)	28 (1.9)
Ohio	82 (4.0)!	30 (3.9)	59 (4.0)!	65 (2.5)	18 (4.0)!	70 (3.9)	41 (4.0)!	35 (2.5)
Oklahoma	75 (6.7)!	54 (5.3)!	63 (3.7)	62 (2.4)	25 (6.7)!	46 (5.3)!	37 (3.7)	38 (2.4)
Pennsylvania	82 (4.5)!	32 (5.0)	77 (2.6)!	70 (2.2)	18 (4.5)!	68 (5.0)	23 (2.6)!	30 (2.2)
Rhode Island	81 (2.5)!	26 (4.0)!	*** (***)	63 (2.8)	19 (2.5)!	74 (4.0)!	*** (***)	37 (2.8)
South Carolina	73 (3.7)!	25 (4.6)!	39 (4.2)!	51 (1.8)	27 (3.7)!	75 (4.6)!	61 (4.2)!	49 (1.8)
Tennessee	74 (7.9)!	23 (4.2)!	44 (4.9)!	52 (2.6)	26 (7.9)!	77 (4.2)!	56 (4.9)!	48 (2.6)
Texas	89 (2.6)!	44 (6.3)!	66 (4.3)!	55 (2.4)	11 (2.6)!	56 (6.3)!	34 (4.3)!	45 (2.4)
Utah	79 (2.9)	46 (6.2)!	65 (4.9)!	67 (2.0)	21 (2.9)	54 (6.2)!	35 (4.9)!	33 (2.0)
Virginia	81 (4.0)!	37 (4.2)!	53 (4.1)!	60 (2.7)	19 (4.0)!	63 (4.2)!	47 (4.1)!	40 (2.7)
West Virginia	*** (***)	44 (5.6)!	54 (3.0)!	54 (2.1)	*** (***)	56 (5.6)!	46 (3.0)!	46 (2.1)
Wisconsin	84 (4.2)!	46 (4.8)!	75 (2.5)	75 (1.8)	16 (4.2)!	54 (4.8)!	25 (2.5)	25 (1.8)
Wyoming	77 (4.8)!	55 (6.5)!	78 (3.2)	69 (2.2)	23 (4.8)!	45 (6.5)!	22 (3.2)	31 (2.2)
TERRITORY								
Guam	*** (***)	*** (***)	19 (2.4)	32 (1.5)	*** (***)	*** (***)	81 (2.4)	68 (1.5)

TABLE 2.10 | Achievement Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Percentage of Students At or Above Advanced				Percentage of Students At or Above Proficient			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	9 (3.1)!	1 (0.4)	2 (1.0)!	3 (0.5)	44 (5.6)!	7 (1.5)	21 (3.8)!	24 (1.2)
Northeast	13 (5.2)!	0 (0.3)!	*** (***)	5 (1.3)	50 (9.5)!	3 (1.6)!	*** (***)	25 (3.4)
Southeast	5 (1.7)!	1 (0.7)!	1 (1.2)!	1 (0.5)	29 (2.2)!	6 (3.3)!	12 (3.4)!	18 (1.3)
Central	5 (5.0)!	1 (0.6)!	3 (1.9)!	3 (0.7)	45(13.4)!	6 (3.5)!	31 (5.1)!	29 (2.7)
West	12 (6.6)!	1 (0.8)!	0 (0.6)!	4 (1.1)	44(11.8)!	12 (2.7)!	22 (5.6)!	24 (2.4)
STATES								
Alabama	2 (1.9)!	1 (0.5)!	0 (0.2)!	1 (0.5)	16 (8.3)!	7 (3.1)!	11 (1.7)!	14 (1.6)
Arizona	5 (1.8)!	0 (0.6)!	0 (0.0)!	1 (0.5)	31 (5.6)!	8 (1.9)!	16 (4.9)!	18 (1.3)
Arkansas	*** (***)	0 (0.0)!	1 (0.6)!	1 (0.3)	*** (***)	5 (2.2)!	13 (2.2)!	13 (1.1)
California	13 (6.6)!	0 (0.3)	*** (***)	2 (0.6)	46 (6.6)!	5 (1.6)	*** (***)	21 (1.6) >
Colorado	3 (1.4)	1 (0.9)!	2 (1.1)!	3 (0.6)	37 (3.1)	14 (2.5)!	24 (3.5)!	26 (1.9)
Connecticut	9 (2.9)!	1 (0.7)	*** (***)	4 (0.9)	43 (6.9)!	7 (1.8)	*** (***)	33 (1.8)»
Delaware	*** (***)	*** (***)	2 (0.8)	3 (0.5)	*** (***)	*** (***)	18 (2.4)	19 (1.2)
Dist. Columbia	1 (1.2) <	0 (0.0)	*** (***)	3 (1.1)	12 (2.8)	1 (0.6)	*** (***)	16 (4.2) >
Florida	6 (2.2)!	1 (0.6)!	1 (1.1)!	2 (0.6)	26 (4.8)!	13 (3.7)!	13 (4.0)!	18 (1.6)
Georgia	5 (2.6)!	0 (0.3)!	0 (0.3)!	1 (0.4)	28 (3.5)!	8 (1.9)!	8 (3.7)!	17 (1.5)
Hawaii	2 (1.8)	1 (0.9)	*** (***)	2 (0.4)	15 (2.3) <	9 (1.9)	*** (***)	17 (1.3)
Idaho	7 (4.1)!	2 (2.8)!	2 (1.0)	2 (0.5)	44 (9.2)!	32 (8.0)!	25 (2.7)	27 (1.4)
Indiana	7 (2.3)!	0 (0.4)!	2 (0.7)	3 (0.6)	41 (5.8)!	6 (1.8)!	22 (3.5)	26 (1.8)
Iowa	6 (5.1)!	4 (3.0)!	5 (1.3)	4 (0.9)	49 (8.9)!	24 (9.4)!	41 (2.3) >	34 (2.1)
Kentucky	10 (2.8)!	0 (0.0)!	1 (0.4)!	2 (0.5)	45 (7.0)!	12 (2.7)!	16 (2.5)!	17 (1.4)
Louisiana	*** (***)	0 (0.3)	1 (0.5)!	1 (0.2)	*** (***)	2 (1.0)	8 (3.2)!	11 (1.3)
Maine	*** (***)	*** (***)	3 (1.2)!	4 (0.8)	*** (***)	*** (***)	27 (2.5)!	32 (2.4)
Maryland	10 (2.5)	1 (0.2)! >	*** (***)	4 (1.0)	40 (4.0)	9 (2.8)!	*** (***)	25 (2.6)
Massachusetts	14 (3.6)!	0 (0.1)	*** (***)	3 (0.6)	62 (6.6)!	7 (2.2)	*** (***)	31 (2.0)
Michigan	10 (3.4)!	1 (0.3)	2 (1.0)!	2 (0.6)	51(10.2)!	6 (2.0)	23 (3.2)!	24 (2.0)
Minnesota	9 (3.7)!	*** (***)	4 (1.0)!	6 (0.9)	48 (8.7)!	*** (***)	34 (2.7)!	37 (1.8)
Mississippi	*** (***)	0 (0.5)!	0 (0.4)!	0 (0.2)	*** (***)	5 (1.5)!	7 (1.9)!	8 (0.9)
Missouri	6 (3.0)!	2 (1.0)!	1 (0.5)!	3 (0.5)	38 (5.3)!	12 (2.4)!	21 (4.1)!	24 (1.6)
Nebraska	*** (***)	1 (1.2)	4 (1.4)	3 (0.6)	*** (***)	15 (4.2)	36 (4.2)	30 (2.2)
New Hampshire	9 (5.9)!	*** (***)	2 (2.3)!	3 (0.7)	53 (3.8)! >	*** (***)	37 (6.2)!	29 (1.4)
New Jersey	11 (4.3)!	0 (0.2)	*** (***)	5 (0.8)	53 (5.3)!	2 (1.2)	*** (***)	33 (2.0) >
New Mexico	3 (1.4)	0 (0.4)!	0 (0.0)!	1 (0.4)	32 (8.4)	6 (2.3)!	10 (3.9)!	14 (1.2)
New York	11 (2.8)!	0 (0.6)!	3 (1.4)!	3 (0.8)	47 (5.6)!	3 (1.8)!	28 (2.2)!	25 (2.5)
North Carolina	7 (7.2)!	1 (0.8)!	1 (0.9)!	1 (0.3)	39(12.9)!	6 (2.2)!	12 (1.9)!	15 (1.2)
North Dakota	3 (2.3)!	*** (***)	3 (0.8)	5 (0.9)	40 (2.4)!	*** (***)	35 (3.0)	33 (2.0)
Ohio	9 (3.7)!	0 (0.4)	2 (1.2)!	2 (0.6)	58 (8.3)! >	8 (2.2)	26 (2.4)!	22 (1.8)
Oklahoma	*** (***)	1 (2.7)!	1 (0.6)!	2 (0.4)	*** (***)	18 (6.0)!	17 (2.8)!	23 (1.7)
Pennsylvania	11 (1.8)!	1 (0.8)!	4 (1.8)!	3 (0.9)	47(11.7)!	9 (2.8)!	29 (5.7)!	29 (1.8) >
Rhode Island	6 (2.9)	1 (1.0)	*** (***)	1 (0.3)	39 (4.6)	7 (3.1)	*** (***)	20 (1.7)
South Carolina	3 (2.2)!	1 (0.8)!	2 (1.0)!	2 (0.6)	26 (3.7)!	8 (4.2)!	24 (2.6)!	18 (1.3)
Tennessee	5 (3.2)!	0 (0.9)!	0 (0.3)!	1 (0.5)	34 (6.4)!	4 (3.8)!	12 (2.2)!	15 (1.4)
Texas	14 (2.4)! >	1 (0.4)!	3 (1.8)!	2 (0.7)	45 (3.4)! >	7 (1.6)!	23 (6.3)!	21 (2.0)
Utah	4 (1.6)	2 (1.2)!	2 (1.2)!	3 (0.6)	37 (3.8)	21 (4.8)!	26 (4.6)!	26 (1.4)
Virginia	6 (2.5)!	1 (0.6)!	1 (0.9)!	2 (0.5)	39 (4.0)!	10 (3.2)!	14 (3.0)!	20 (1.8)
West Virginia	*** (***)	0 (0.5)	1 (0.8)!	1 (0.2)	*** (***)	10 (2.4)	12 (2.0)!	13 (1.2)
Wisconsin	8 (3.5)!	0 (0.0)!	4 (2.2)!	4 (0.7)	47 (5.8)!	6 (1.7)!	33 (2.3)!	32 (1.8)
Wyoming	*** (***)	4 (2.9)!	3 (1.2)!	2 (0.5)	*** (***)	23 (6.8)!	27 (3.3)!	26 (1.2)
TERRITORIES								
Guam	*** (***)	*** (***)	0 (0.0)	1 (0.2)	*** (***)	*** (***)	1 (0.5)«	8 (0.8) >
Virgin Islands	*** (***)	*** (***)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.6)	0 (0.3)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 2.10 | Achievement Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Percentage of Students At or Above Basic				Percentage of Students Below Basic			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	79 (3.7)!	28 (3.2)	65 (6.2)!	63 (1.6)	21 (3.7)!	72 (3.2)	35 (6.2)!	37 (1.6)
Northeast	84 (4.4)!	20 (4.6)!	*** (***)	59 (3.6)	16 (4.4)!	80 (4.6)!	*** (***)	41 (3.6)
Southeast	66 (2.5)!	28 (7.1)!	50 (7.3)!	56 (2.2)	34 (2.5)!	72 (7.1)!	50 (7.3)!	44 (2.2)
Central	81 (4.0)!	25 (8.0)!	80 (6.8)!	72 (2.9)	19 (4.0)!	75 (8.0)!	20 (6.8)!	28 (2.9)
West	78 (8.1)!	39 (5.0)!	61 (5.3)!	63 (3.4)	22 (8.1)!	61 (5.0)!	39 (5.3)!	37 (3.4)
STATES								
Alabama	57 (6.1)!	26 (5.3)!	48 (3.4)!	47 (2.7)	43 (6.1)!	74 (5.3)!	52 (3.4)!	53 (2.7)
Arizona	79 (4.5)!	46 (6.1)!	50(10.8)!	60 (2.2)	21 (4.5)!	54 (6.1)!	50(10.8)!	40 (2.2)
Arkansas	*** (***)	30 (7.4)!	57 (4.4)!	50 (1.7)	*** (***)	70 (7.4)!	43 (4.4)!	50 (1.7)
California	84 (4.1)!	30 (3.8)	*** (***)	59 (2.6)	16 (4.1)!	70 (3.8)	*** (***)	41 (2.6)
Colorado	83 (2.4)	47 (3.7)!	72 (3.2)!	69 (2.0)	17 (2.4)	53 (3.7)!	28 (3.2)!	31 (2.0)
Connecticut	75 (5.0)!	34 (3.8)	*** (***)	76 (1.8) >	25 (5.0)!	66 (3.8)	*** (***)	24 (1.8) <
Delaware	*** (***)	*** (***)	61 (3.1)	56 (1.4)	*** (***)	*** (***)	39 (3.1)	44 (1.4)
Dist. Columbia	44 (5.8)	16 (2.1)	*** (***)	44 (2.2) »	56 (5.8)	84 (2.1)	*** (***)	56 (2.2) «
Florida	64 (5.4)!	43 (5.6)!	56 (7.1)!	56 (2.4)	36 (5.4)!	57 (5.6)!	44 (7.1)!	44 (2.4)
Georgia	70 (8.4)!	40 (5.7)!	40 (2.9)!	55 (1.9)	30 (8.4)!	60 (5.7)!	60 (2.9)!	45 (1.9)
Hawaii	47 (4.4) <	33 (2.9)	*** (***)	55 (1.8) >	53 (4.4) >	67 (2.9)	*** (***)	45 (1.8) <
Idaho	87 (3.9)!	79 (5.8)!	74 (2.2)	73 (1.3)	13 (3.9)!	21 (5.8)!	26 (2.2)	27 (1.3)
Indiana	83 (5.2)!	35 (3.1)!	65 (4.1)	70 (1.8)	17 (5.2)!	65 (3.1)!	35 (4.1)	30 (1.8)
Iowa	90 (3.5)!	68 (4.3)!	87 (1.8) >	78 (1.8)	10 (3.5)!	32 (4.3)!	13 (1.8) <	22 (1.8)
Kentucky	80 (5.9)!	45 (4.2)!	61 (3.2)! >	58 (1.9)	20 (5.9)!	55 (4.2)!	39 (3.2)! <	42 (1.9)
Louisiana	*** (***)	20 (3.8)	48 (5.8)! >	46 (2.4)	*** (***)	80 (3.8)	52 (5.8)! <	54 (2.4)
Maine	*** (***)	*** (***)	77 (3.1)!	77 (1.5)	*** (***)	*** (***)	23 (3.1)!	23 (1.5)
Maryland	78 (3.9)	32 (8.3)!	*** (***)	61 (2.6)	22 (3.9)	68 (8.3)!	*** (***)	39 (2.6)
Massachusetts	92 (4.3)!	38 (4.4)	*** (***)	75 (2.3)	8 (4.3)!	62 (4.4)	*** (***)	25 (2.3)
Michigan	82 (7.5)!	30 (4.6)	74 (3.9)!	67 (2.0)	18 (7.5)!	70 (4.6)	26 (3.9)!	33 (2.0)
Minnesota	84 (6.1)!	*** (***)	79 (2.8)!	78 (1.7)	16 (6.1)!	*** (***)	21 (2.8)!	22 (1.7)
Mississippi	*** (***)	31 (8.0)!	36 (5.5)!	38 (1.9)	*** (***)	69 (8.0)!	64 (5.5)!	62 (1.9)
Missouri	70 (4.6)!	45 (6.4)!	70 (3.2)!	71 (1.8)	30 (4.6)!	55 (6.4)!	30 (3.2)!	29 (1.8)
Nebraska	*** (***)	43 (5.9)	79 (2.6)	75 (1.6)	*** (***)	57 (5.9)	21 (2.6)	25 (1.6)
New Hampshire	93 (4.1)! >	*** (***)	82 (5.5)!	76 (1.3)	7 (4.1)! <	*** (***)	18 (5.5)!	24 (1.3)
New Jersey	90 (2.8)!	27 (4.0)	*** (***)	78 (1.8) >	10 (2.8)!	73 (4.0)	*** (***)	22 (1.8) <
New Mexico	83 (4.2)	48 (5.5)!	56(10.8)!	54 (1.7)	17 (4.2)	52 (5.5)!	44(10.8)!	46 (1.7)
New York	87 (2.6)!	24 (4.6)!	76 (3.0)!	67 (3.4)	13 (2.6)!	76 (4.6)!	24 (3.0)!	33 (3.4)
North Carolina	74(12.3)!	35 (7.0)!	47 (4.5)!	53 (1.7) >	26(12.3)!	65 (7.0)!	53 (4.5)!	47 (1.7) <
North Dakota	88 (3.5)!	*** (***)	82 (2.3)	81 (1.8)	12 (3.5)!	*** (***)	18 (2.3)	19 (1.8)
Ohio	90 (3.4)!	39 (3.8)	78 (5.4)!	67 (2.8)	10 (3.4)!	61 (3.8)	22 (5.4)!	33 (2.8)
Oklahoma	*** (***)	68 (6.2)! >	64 (3.6)!	67 (2.4)	*** (***)	32 (6.2)! <	36 (3.6)!	33 (2.4)
Pennsylvania	82 (6.7)!	36 (6.2)!	74 (4.0)!	73 (1.5) >	18 (6.7)!	64 (6.2)	26 (4.0)!	27 (1.5) <
Rhode Island	79 (2.5)	35 (2.9)	*** (***)	67 (1.4) »	21 (2.5)	65 (2.9)	*** (***)	33 (1.4) «
South Carolina	79 (6.9)!	37 (6.0)!	63 (4.3)!	53 (1.5)	21 (6.9)!	63 (6.0)!	37 (4.3)!	47 (1.5)
Tennessee	74 (4.7)!	22(11.6)!	58 (3.3)!	54 (2.1)	26 (4.7)!	78(11.6)!	42 (3.3)!	46 (2.1)
Texas	85 (2.5)! >	39 (3.5)!	57 (9.2)!	59 (2.2)	15 (2.5)! <	61 (3.5)!	43 (9.2)!	41 (2.2)
Utah	81 (3.5)	67 (4.3)!	68 (3.2)!	72 (1.9)	19 (3.5)	33 (4.3)!	32 (3.2)!	28 (1.9)
Virginia	82 (4.4)!	43 (5.3)!	56 (5.8)!	61 (2.2)	18 (4.4)!	57 (5.3)!	44 (5.8)!	39 (2.2)
West Virginia	*** (***)	52 (3.2)	50 (3.8)!	53 (1.8)	*** (***)	48 (3.2)	50 (3.8)!	47 (1.8)
Wisconsin	89 (5.4)!	33 (4.5)!	83 (3.8)!	75 (1.8)	11 (5.4)!	67 (4.5)!	17 (3.8)!	25 (1.8)
Wyoming	*** (***)	70 (5.9)!	76 (3.7)!	74 (1.3)	*** (***)	30 (5.9)!	24 (3.7)!	26 (1.3)
TERRITORIES								
Guam	*** (***)	*** (***)	15 (3.0) «	32 (1.6) >	*** (***)	*** (***)	85 (3.0) »	68 (1.6) <
Virgin Islands	*** (***)	*** (***)	11 (2.5)	10 (1.1)	*** (***)	*** (***)	89 (2.5)	90 (1.1)

TABLE 2.10 | Achievement Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Percentage of Students At or Above Advanced				Percentage of Students At or Above Proficient			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	6 (2.5)!	1 (0.7)!	1 (0.7)!	2 (0.4)	36 (4.2)!	12 (3.5)!	13 (3.6)!	19 (1.3)
Northeast	5 (4.6)!	0 (1.0)!	*** (***)	4 (1.1)	34 (8.5)!	11(14.0)!	*** (***)	28 (3.5)
Southeast	*** (***)	*** (***)	0 (0.8)!	2 (0.7)	*** (***)	*** (***)	15 (7.4)!	15 (2.4)
Central	*** (***)	0 (0.0)!	*** (***)	2 (0.7)	*** (***)	2 (1.3)!	*** (***)	22 (2.4)
West	7 (4.5)!	2 (1.3)!	1 (1.1)!	2 (0.7)	39 (5.4)!	15 (5.7)!	11 (7.4)!	16 (2.1)
STATES								
Alabama	4 (1.6)!	1 (0.6)!	0 (0.2)!	1 (0.3)	25 (4.1)!	9 (2.1)!	8 (2.6)!	11 (1.1)
Arizona	3 (1.8)!	0 (0.6)!	0 (0.7)!	2 (0.5)	25 (4.9)!	8 (2.6)!	9 (3.8)!	15 (1.7)
Arkansas	3 (1.1)!	0 (0.8)!	1 (0.4)	1 (0.3)	27 (4.8)!	5 (2.3)!	9 (1.7)	14 (1.1)
California	5 (1.7)!	0 (0.3)!	*** (***)	2 (0.5)	32 (5.3)!	7 (2.2)!	*** (***)	15 (1.4)
Colorado	5 (1.2)	1 (0.5)!	1 (0.5)	1 (0.5)	33 (2.6)	6 (3.2)!	19 (2.4)	19 (1.4)
Connecticut	7 (1.1)	0 (0.7)	*** (***)	3 (0.5)	40 (2.3)	5 (1.6)	*** (***)	23 (1.4)
Delaware	7 (2.9)	*** (***)	1 (0.4)	2 (0.6)	42 (3.0)	*** (***)	15 (1.4)	17 (1.2)
Dist. Columbia	5 (0.9)	0 (0.1)	*** (***)	0 (0.4)	16 (3.2)	2 (0.5)	*** (***)	2 (1.0)
Florida	3 (1.2)!	1 (0.4)	0 (0.0)!	2 (0.7)	23 (2.3)!	6 (1.7)	10 (2.0)!	16 (1.5)
Georgia	10 (2.4)!	0 (0.4)!	2 (0.5)	2 (0.5)	41 (4.1)!	6 (1.8)!	12 (1.9)	15 (1.4)
Hawaii	3 (1.4)	0 (0.3)	*** (***)	2 (0.5)	27 (3.2)	6 (1.8)	*** (***)	15 (1.0)
Idaho	*** (***)	*** (***)	1 (0.5)	2 (0.4)	*** (***)	*** (***)	20 (1.5)	24 (1.9)
Indiana	8 (3.1)!	1 (0.8)!	2 (0.9)	3 (0.6)	33 (5.3)!	6 (2.6)!	17 (2.5)	21 (1.5)
Iowa	12 (2.8)!	0 (1.0)!	4 (0.9)	3 (0.6)	49 (8.1)!	16 (1.9)!	30 (2.2)	29 (2.3)
Kentucky	3 (1.7)!	1 (0.4)!	0 (0.3)	2 (0.4)	26 (3.9)!	10 (3.1)!	10 (1.2)	14 (1.3)
Louisiana	5 (1.2)!	0 (0.2)	0 (0.0)!	0 (0.2)	23 (4.0)!	4 (1.4)	3 (1.1)!	8 (1.4)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	8 (1.6)	0 (0.1)!	0 (1.3)!	2 (0.9)	34 (3.3)	5 (1.4)!	11 (2.3)!	19 (2.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	7 (1.7)!	0 (0.0)!	2 (0.9)	2 (0.5)	35 (4.0)!	3 (1.9)!	19 (4.1)	20 (2.0)
Minnesota	5 (1.0)	*** (***)	3 (0.9)	4 (0.6)	30 (3.1)	*** (***)	28 (2.9)	31 (1.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	6 (2.6)	*** (***)	3 (0.9)	3 (0.7)	40 (6.7)	*** (***)	32 (3.0)	25 (1.6)
New Hampshire	8 (3.8)	*** (***)	6 (2.0)!	3 (0.4)	35 (4.7)	*** (***)	34 (6.4)!	25 (1.3)
New Jersey	8 (1.7)	0 (0.2)	*** (***)	3 (0.7)	40 (4.7)	4 (1.0)	*** (***)	23 (2.0)
New Mexico	4 (2.9)	1 (0.7)	0 (0.4)	1 (0.4)	37 (8.6)	13 (4.3)	9 (2.0)	12 (1.1)
New York	7 (1.6)!	1 (0.5)	6 (3.5)!	3 (0.7)	34 (3.7)!	8 (1.7)	28 (3.2)!	21 (1.5)
North Carolina	3 (2.2)!	0 (0.5)!	0 (0.2)	1 (0.4)	29 (4.4)!	9 (4.8)!	6 (1.6)	11 (0.9)
North Dakota	5 (0.9)	*** (***)	3 (0.9)	4 (1.0)	38 (4.7)	*** (***)	34 (3.7)	33 (2.3)
Ohio	4 (1.5)!	0 (0.6)	1 (0.7)!	2 (0.4)	32 (2.9)!	8 (1.7)	17 (3.0)!	18 (1.3)
Oklahoma	2 (1.5)!	0 (0.4)!	1 (0.5)	2 (0.8)	35 (4.0)!	7 (3.6)!	12 (3.2)	17 (1.5)
Pennsylvania	8 (1.8)!	1 (0.7)!	1 (0.8)!	2 (0.5)	43 (3.4)!	9 (2.8)!	20 (4.3)!	20 (1.8)
Rhode Island	4 (1.1)	1 (0.9)	*** (***)	1 (0.4)	32 (2.4)	10 (2.0)	*** (***)	16 (1.1)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	5 (1.6)!	1 (0.5)!	2 (1.3)!	1 (0.4)	29 (3.7)!	8 (1.6)!	17 (2.2)!	15 (1.6)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	10 (2.6)	0 (0.4)!	1 (0.8)	3 (0.5)	37 (4.7)	8 (5.3)!	10 (2.8)	17 (1.9)
West Virginia	*** (***)	1 (0.6)!	1 (0.4)!	1 (0.3)	*** (***)	10 (1.6)!	11 (1.5)!	13 (1.0)
Wisconsin	7 (2.8)!	1 (0.8)!	2 (0.7)	4 (0.7)	45 (7.3)!	7 (1.6)!	30 (2.2)	31 (2.0)
Wyoming	*** (***)	*** (***)	2 (0.6)	2 (0.4)	*** (***)	*** (***)	26 (2.4)	24 (1.2)
TERRITORIES								
Guam	*** (***)	*** (***)	1 (0.5)	0 (0.2)	*** (***)	*** (***)	7 (1.1)	5 (0.7)
Virgin Islands	*** (***)	*** (***)	0 (0.0)	0 (0.1)	*** (***)	*** (***)	0 (0.4)	1 (0.5)

(xxx) Did not participate in the 1990 Trial State Assessment.

Achievement Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Percentage of Students At or Above Basic				Percentage of Students Below Basic			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	78 (4.3)!	43 (4.2)!	50 (5.7)!	58 (2.0)	22 (4.3)!	57 (4.2)!	50 (5.7)!	42 (2.0)
Northeast	78 (8.9)!	35 (7.9)!	*** (***)	69 (4.0)	22 (8.9)!	65 (7.9)!	*** (***)	31 (4.0)
Southeast	*** (***)	*** (***)	45(15.0)!	49 (3.5)	*** (***)	*** (***)	55(15.0)!	51 (3.5)
Central	*** (***)	27 (2.9)!	*** (***)	64 (3.7)	*** (***)	73 (2.9)!	*** (***)	36 (3.7)
West	77 (3.2)!	51 (7.5)!	45(11.6)!	55 (3.9)	23 (3.2)!	49 (7.5)!	55(11.6)!	45 (3.9)
STATES								
Alabama	63 (5.6)!	39 (4.7)!	43 (5.1)!	47 (2.1)	37 (5.6)!	61 (4.7)!	57 (5.1)!	53 (2.1)
Arizona	72 (2.7)!	40 (5.4)!	41(10.4)!	54 (2.8)	28 (2.7)!	60 (5.4)!	59(10.4)!	46 (2.8)
Arkansas	66 (4.7)!	31 (5.1)!	50 (2.8)	53 (1.8)	34 (4.7)!	69 (5.1)!	50 (2.8)	47 (1.8)
California	75 (3.9)!	34 (5.8)!	*** (***)	50 (2.3)	25 (3.9)!	66 (5.8)!	*** (***)	50 (2.3)
Colorado	78 (2.4)	39 (5.8)!	68 (3.7)	61 (2.1)	22 (2.4)	61 (5.8)!	32 (3.7)	39 (2.1)
Connecticut	81 (2.0)	31 (4.3)	*** (***)	67 (2.0)	19 (2.0)	69 (4.3)	*** (***)	33 (2.0)
Delaware	75 (1.7)	*** (***)	54 (2.2)	52 (1.8)	25 (1.7)	*** (***)	46 (2.2)	48 (1.8)
Dist. Columbia	45 (3.8)	15 (1.2)	*** (***)	25 (2.9)	55 (3.8)	85 (1.2)	*** (***)	75 (2.9)
Florida	68 (3.2)!	32 (1.9)	44 (4.8)!	50 (2.2)	32 (3.2)!	68 (1.9)	56 (4.8)!	50 (2.2)
Georgia	81 (2.4)!	39 (5.5)!	46 (2.9)	52 (2.1)	19 (2.4)!	61 (5.5)!	54 (2.9)	48 (2.1)
Hawaii	65 (3.7)	32 (3.0)	*** (***)	47 (1.3)	35 (3.7)	68 (3.0)	*** (***)	53 (1.3)
Idaho	*** (***)	*** (***)	68 (1.7)	70 (1.6)	*** (***)	*** (***)	32 (1.7)	30 (1.6)
Indiana	77 (4.2)!	34 (8.2)!	63 (3.4)	65 (1.9)	23 (4.2)!	66 (8.2)!	37 (3.4)	35 (1.9)
Iowa	89 (3.9)!	55 (6.2)!	78 (1.9)	75 (1.9)	11 (3.9)!	45 (6.2)!	22 (1.9)	25 (1.9)
Kentucky	63 (4.1)!	38 (3.3)!	47 (3.1)	53 (2.1)	37 (4.1)!	62 (3.3)!	53 (3.1)	47 (2.1)
Louisiana	63 (5.2)!	26 (4.8)	26 (3.6)!	43 (2.5)	37 (5.2)!	74 (4.8)	74 (3.6)!	57 (2.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	70 (4.8)	25 (4.8)!	51 (6.5)!	57 (2.9)	30 (4.8)	75 (4.8)!	49 (6.5)!	43 (2.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	80 (2.5)!	25 (4.4)!	64 (2.6)	65 (2.2)	20 (2.5)!	75 (4.4)!	36 (2.6)	35 (2.2)
Minnesota	75 (2.4)	*** (***)	76 (1.7)	77 (1.9)	25 (2.4)	*** (***)	24 (1.7)	23 (1.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	85 (3.0)	*** (***)	78 (2.4)	70 (1.6)	15 (3.0)	*** (***)	22 (2.4)	30 (1.6)
New Hampshire	73 (3.8)	*** (***)	74 (7.2)!	73 (1.2)	27 (3.8)	*** (***)	26 (7.2)!	27 (1.2)
New Jersey	82 (2.9)	27 (3.5)	*** (***)	66 (2.6)	18 (2.9)	73 (3.5)	*** (***)	34 (2.6)
New Mexico	83 (3.7)	54 (6.3)	48 (3.3)	48 (1.3)	17 (3.7)	46 (6.3)	52 (3.3)	52 (1.3)
New York	77 (2.8)!	29 (3.4)	74 (3.8)!	68 (2.0)	23 (2.8)!	71 (3.4)	26 (3.8)!	32 (2.0)
North Carolina	65 (6.1)!	39(13.9)!	37 (3.6)	45 (1.6)	35 (6.1)!	61(13.9)!	63 (3.6)	55 (1.6)
North Dakota	84 (2.8)	*** (***)	80 (2.6)	82 (2.2)	16 (2.8)	*** (***)	20 (2.6)	18 (2.2)
Ohio	79 (2.2)!	32 (5.0)	65 (3.3)!	60 (1.8)	21 (2.2)!	68 (5.0)	35 (3.3)!	40 (1.8)
Oklahoma	81 (2.2)!	41 (3.8)!	53 (3.4)	62 (2.3)	19 (2.2)!	59 (3.8)!	47 (3.4)	38 (2.3)
Pennsylvania	84 (2.4)!	37 (7.0)!	68 (4.1)!	65 (2.0)	16 (2.4)!	63 (7.0)!	32 (4.1)!	35 (2.0)
Rhode Island	72 (1.9)	37 (2.6)	*** (***)	54 (1.4)	28 (1.9)	63 (2.6)	*** (***)	46 (1.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	74 (3.1)!	35 (3.6)!	60 (4.0)!	51 (2.2)	26 (3.1)!	65 (3.6)!	40 (4.0)!	49 (2.2)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	77 (3.0)	36 (6.2)!	39 (3.9)	55 (2.0)	23 (3.0)	64 (6.2)!	61 (3.9)	45 (2.0)
West Virginia	*** (***)	53 (3.8)!	49 (2.0)!	49 (1.5)	*** (***)	47 (3.8)!	51 (2.0)!	51 (1.5)
Wisconsin	88 (3.1)!	34 (5.0)!	82 (2.7)	73 (1.7)	12 (3.1)!	66 (5.0)!	18 (2.7)	27 (1.7)
Wyoming	*** (***)	*** (***)	76 (2.1)	71 (1.5)	*** (***)	*** (***)	24 (2.1)	29 (1.5)
TERRITORIES								
Guam	*** (***)	*** (***)	30 (1.3)	26 (1.5)	*** (***)	*** (***)	70 (1.3)	74 (1.5)
Virgin Islands	*** (***)	*** (***)	5 (1.8)	12 (1.4)	*** (***)	*** (***)	95 (1.8)	88 (1.4)

(xxx) Did not participate in the 1990 Trial State Assessment.

National Performance by Parents' Highest Level of Education

TABLE 2.11 Average Mathematics Proficiency and Achievement Levels by Parents' Highest Level of Education, Grades 4, 8, and 12

	Assessment Years	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Percentage Below Basic
				Advanced	Proficient	Basic	
Grade 4							
Graduated College	**1992** **1990**	41 (1.0) 35 (1.2)	226 (1.0)> 221 (1.5)	4 (0.6) 3 (0.7)	26 (1.8) 21 (2.2)	69 (1.3) 64 (2.4)	**31 (1.3)** **36 (2.4)**
Some Education after High School	**1992** **1990**	7 (0.4) 8 (0.5)	224 (1.5) 222 (2.5)	2 (0.7) 3 (1.2)	21 (2.2) 20 (4.2)	69 (2.8) 66 (4.3)	**31 (2.8)** **34 (4.3)**
Graduated High School	**1992** **1990**	12 (0.5) 15 (0.9)	213 (1.5)> 208 (1.5)	0 (0.4) 0 (0.2)	12 (1.6) 8 (1.9)	55 (2.6) 48 (2.7)	**45 (2.6)** **52 (2.7)**
Did Not Finish High School	**1992** **1990**	4 (0.3) 5 (0.4)	204 (2.6) 202 (3.7)	0 (0.4) 0 (0.0)	6 (1.9) 8 (4.5)	42 (5.2) 42 (4.9)	**58 (5.2)** **58 (4.9)**
I don't know	**1992** **1990**	35 (0.7) 37 (1.3)	213 (0.8)> 207 (1.2)	1 (0.3) 1 (0.5)	13 (1.0)> 8 (1.0)	53 (1.3)> 46 (2.1)	**47 (1.3)<** **54 (2.1)**
Grade 8							
Graduated College	**1992** **1990**	42 (1.3) 41 (1.8)	280 (1.2)> 274 (1.5)	6 (0.9) 4 (0.7)	38 (1.8)> 30 (1.9)	75 (1.2) 72 (1.7)	**25 (1.2)** **28 (1.7)**
Some Education after High School	**1992** **1990**	18 (0.5) 17 (0.8)	270 (1.1) 268 (1.6)	3 (0.7) 3 (0.9)	24 (1.2) 20 (2.3)	68 (1.7) 65 (2.2)	**32 (1.7)** **35 (2.2)**
Graduated High School	**1992** **1990**	24 (0.7) 24 (1.1)	257 (1.2) 255 (1.6)	1 (0.4) 0 (0.3)	13 (1.2) 12 (1.5)	52 (2.0) 50 (2.1)	**48 (2.0)** **50 (2.1)**
Did Not Finish High School	**1992** **1990**	8 (0.5) 9 (0.8)	248 (1.7)> 242 (2.0)	1 (0.5) 0 (0.1)	8 (1.7) 4 (1.4)	40 (3.3) 33 (3.7)	**60 (3.3)** **67 (3.7)**
I don't know	**1992** **1990**	9 (0.4) 9 (0.6)	251 (1.6)> 241 (3.2)	1 (0.5) 0 (0.2)	11 (1.8) 7 (2.0)	44 (2.3) 36 (3.7)	**56 (2.3)** **64 (3.7)**
Grade 12							
Graduated College	**1992** **1990**	43 (1.1) 39 (1.4)	310 (1.2)> 306 (1.6)	4 (0.7) 3 (0.6)	25 (1.4) 20 (1.8)	77 (1.4) 72 (1.9)	**23 (1.4)** **28 (1.9)**
Some Education after High School	**1992** **1990**	26 (0.7) 27 (1.0)	298 (1.0) 297 (1.2)	1 (0.4) 1 (0.5)	13 (0.9) 12 (1.5)	63 (1.8) 64 (1.7)	**37 (1.8)** **36 (1.7)**
Graduated High School	**1992** **1990**	21 (0.8) 24 (1.1)	287 (1.4) 283 (2.0)	0 (0.2) 1 (0.4)	7 (0.9) 6 (1.2)	51 (2.0) 46 (2.8)	**49 (2.0)** **54 (2.8)**
Did Not Finish High School	**1992** **1990**	6 (0.4) 8 (0.7)	278 (1.7)> 272 (2.1)	0 (0.3) 0 (0.0)	3 (1.5) 3 (1.9)	38 (2.9) 30 (3.5)	**62 (2.9)** **70 (3.5)**
I don't know	**1992** **1990**	3 (0.3) 2 (0.3)	276 (3.0) 268 (4.9)	0 (0.8) 0 (1.1)	3 (1.9) 3 (1.8)	37 (5.6) 32 (6.5)	**63 (5.6)** **68 (6.5)**

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 2.12 | Average Mathematics Proficiency by Parents' Highest Level of Education

PUBLIC SCHOOLS	Grade 4 - 1992									
	Graduated College		Some Education After High School		Graduated High School		Did Not Finish High School		I Don't Know	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	40 (1.1)	225 (1.2)	7 (0.4)	223 (1.7)	13 (0.6)	212 (1.6)	4 (0.3)	203 (2.7)	36 (0.8)	212 (0.9)
Northeast	44 (3.2)	231 (3.0)	6 (0.6)	229 (4.7)	11 (0.9)	215 (5.2)	4 (0.7)	*** (***)	35 (2.0)	216 (2.4)
Southeast	37 (1.8)	215 (2.2)	7 (0.8)	217 (3.8)	16 (1.1)	203 (3.3)	6 (0.6)	198 (3.9)	34 (1.2)	205 (1.6)
Central	40 (2.3)	229 (2.2)	8 (0.9)	228 (4.1)	13 (1.6)	218 (3.3)	4 (0.6)	*** (***)	35 (2.1)	216 (2.4)
West	38 (1.9)	224 (2.4)	7 (1.0)	218 (2.3)	12 (1.0)	216 (2.4)	4 (0.5)	202 (5.1)	39 (1.3)	212 (1.9)
STATES										
Alabama	35 (1.3)	211 (2.3)	9 (0.7)	216 (2.2)	19 (1.0)	203 (2.0)	8 (0.7)	202 (1.9)	28 (1.1)	203 (2.0)
Arizona	33 (1.1)	220 (1.4)	8 (0.7)	225 (1.8)	11 (0.7)	210 (2.6)	4 (0.4)	202 (3.3)	44 (1.1)	209 (1.4)
Arkansas	32 (1.3)	213 (1.7)	9 (0.7)	215 (1.9)	18 (0.9)	208 (1.5)	7 (0.5)	198 (2.2)	34 (1.2)	206 (1.2)
California	35 (1.5)	216 (2.0)	7 (0.7)	217 (2.9)	8 (0.6)	200 (2.7)	5 (0.5)	189 (4.7)	45 (1.4)	202 (1.7)
Colorado	40 (1.0)	228 (1.3)	9 (0.6)	228 (2.0)	10 (0.6)	212 (2.0)	4 (0.3)	200 (2.6)	37 (1.2)	213 (1.2)
Connecticut	44 (1.2)	235 (1.3)	7 (0.7)	225 (2.8)	10 (0.6)	218 (2.1)	4 (0.4)	205 (2.8)	35 (1.2)	220 (1.7)
Delaware	39 (0.9)	225 (1.6)	7 (0.6)	219 (2.8)	14 (0.9)	213 (1.8)	5 (0.6)	196 (3.3)	35 (0.8)	211 (1.0)
Dist. Columbia	42 (1.0)	196 (1.1)	6 (0.4)	198 (2.7)	14 (0.7)	187 (1.9)	4 (0.4)	186 (3.0)	33 (0.8)	187 (1.1)
Florida	37 (1.5)	219 (2.4)	8 (0.5)	221 (2.3)	13 (0.9)	204 (2.2)	4 (0.5)	199 (2.6)	38 (1.2)	208 (1.5)
Georgia	37 (1.2)	221 (1.8)	7 (0.6)	223 (2.3)	18 (0.8)	205 (1.8)	5 (0.6)	202 (2.5)	32 (1.2)	211 (1.5)
Hawaii	36 (1.3)	218 (2.0)	6 (0.5)	219 (2.7)	14 (0.8)	203 (1.8)	3 (0.4)	199 (4.1)	41 (1.2)	211 (1.4)
Idaho	36 (1.2)	227 (1.3)	9 (0.6)	228 (2.0)	12 (0.8)	215 (1.8)	3 (0.4)	200 (2.9)	39 (1.3)	216 (1.2)
Indiana	34 (1.2)	226 (1.4)	8 (0.6)	230 (2.0)	18 (0.9)	216 (1.5)	6 (0.5)	209 (2.5)	34 (1.1)	214 (1.2)
Iowa	40 (1.3)	236 (1.2)	9 (0.6)	235 (2.0)	13 (0.8)	223 (2.1)	3 (0.4)	211 (2.9)	34 (1.0)	223 (1.3)
Kentucky	27 (1.3)	223 (1.8)	9 (0.7)	222 (2.7)	20 (1.1)	210 (1.5)	10 (0.6)	203 (1.8)	35 (0.9)	210 (1.2)
Louisiana	36 (1.4)	207 (1.8)	8 (0.5)	214 (2.8)	16 (0.8)	198 (2.3)	6 (0.5)	194 (2.7)	34 (1.1)	201 (1.9)
Maine	36 (1.7)	240 (1.5)	9 (0.9)	240 (2.1)	16 (1.1)	225 (1.9)	4 (0.4)	215 (3.4)	35 (1.6)	224 (1.3)
Maryland	41 (1.2)	224 (1.6)	8 (0.6)	226 (2.5)	12 (0.8)	206 (2.8)	4 (0.5)	201 (2.8)	36 (1.1)	210 (1.5)
Massachusetts	46 (1.6)	234 (1.3)	7 (0.8)	230 (2.9)	11 (0.7)	219 (2.0)	2 (0.3)	195 (4.1)	33 (1.4)	217 (1.7)
Michigan	38 (1.7)	227 (2.1)	9 (0.7)	224 (2.1)	14 (0.8)	212 (2.4)	3 (0.4)	201 (5.3)	36 (1.4)	213 (1.9)
Minnesota	38 (1.2)	236 (1.4)	6 (0.5)	230 (2.8)	12 (0.7)	220 (1.7)	2 (0.3)	*** (***)	41 (1.2)	222 (1.1)
Mississippi	35 (1.5)	205 (1.6)	6 (0.5)	209 (2.9)	18 (1.3)	197 (2.4)	8 (0.7)	193 (2.3)	32 (1.3)	197 (1.5)
Missouri	36 (1.3)	228 (1.6)	9 (0.6)	227 (1.8)	15 (0.9)	216 (2.2)	5 (0.7)	210 (2.6)	34 (1.1)	215 (1.4)
Nebraska	39 (1.4)	230 (1.6)	11 (0.7)	230 (2.4)	13 (0.8)	222 (2.3)	3 (0.3)	*** (***)	34 (1.5)	219 (1.4)
New Hampshire	42 (1.5)	236 (1.5)	9 (0.7)	232 (2.5)	13 (0.8)	222 (1.6)	3 (0.5)	211 (4.0)	33 (1.3)	223 (1.4)
New Jersey	47 (1.7)	234 (1.7)	8 (0.6)	230 (2.8)	11 (0.7)	219 (2.1)	3 (0.4)	210 (3.8)	31 (1.3)	217 (2.1)
New Mexico	31 (1.9)	221 (2.1)	9 (0.7)	223 (2.9)	15 (1.0)	207 (2.4)	7 (0.7)	202 (2.3)	38 (1.4)	206 (1.5)
New York	41 (1.4)	227 (1.8)	7 (0.8)	225 (3.1)	11 (1.0)	211 (2.4)	4 (0.5)	210 (3.0)	37 (1.7)	210 (1.4)
North Carolina	38 (1.5)	219 (1.7)	9 (0.7)	220 (2.5)	16 (0.7)	204 (1.9)	6 (0.5)	201 (2.5)	30 (1.3)	206 (1.4)
North Dakota	43 (1.3)	233 (0.9)	7 (0.7)	234 (2.6)	12 (0.8)	224 (1.7)	3 (0.4)	*** (***)	34 (1.4)	221 (1.3)
Ohio	36 (1.4)	227 (1.5)	8 (0.6)	221 (3.0)	17 (0.9)	215 (2.0)	5 (0.5)	205 (2.6)	34 (1.2)	210 (1.4)
Oklahoma	35 (1.3)	225 (1.4)	10 (0.7)	225 (1.8)	16 (0.9)	215 (1.6)	5 (0.5)	209 (2.8)	34 (1.4)	214 (1.1)
Pennsylvania	37 (1.4)	230 (2.0)	9 (0.8)	236 (2.0)	16 (0.9)	220 (1.6)	4 (0.4)	211 (3.3)	34 (1.2)	215 (1.8)
Rhode Island	36 (1.3)	224 (1.9)	8 (0.6)	220 (2.5)	11 (0.7)	207 (2.6)	5 (0.4)	200 (2.7)	40 (1.3)	208 (2.1)
South Carolina	36 (1.2)	220 (1.6)	7 (0.5)	219 (2.5)	17 (1.0)	204 (1.7)	5 (0.5)	204 (2.3)	35 (1.2)	205 (1.5)
Tennessee	34 (1.4)	217 (2.2)	9 (0.6)	213 (2.8)	18 (0.9)	205 (2.0)	8 (0.6)	201 (2.3)	31 (1.0)	205 (1.4)
Texas	33 (1.6)	224 (2.0)	8 (0.6)	225 (2.5)	13 (0.8)	213 (2.7)	7 (0.6)	211 (2.4)	39 (1.4)	212 (1.6)
Utah	40 (1.4)	230 (1.3)	8 (0.6)	228 (2.0)	10 (0.7)	216 (2.3)	3 (0.4)	205 (4.1)	39 (1.1)	217 (1.3)
Virginia	43 (1.4)	230 (1.8)	8 (0.6)	219 (2.4)	14 (0.8)	210 (1.8)	6 (0.5)	203 (2.6)	30 (1.1)	213 (1.8)
West Virginia	30 (1.3)	223 (1.7)	9 (0.5)	222 (2.2)	21 (0.8)	210 (1.3)	8 (0.6)	201 (2.1)	32 (1.0)	209 (1.4)
Wisconsin	35 (1.3)	234 (1.5)	10 (0.6)	237 (2.0)	15 (0.8)	225 (2.0)	3 (0.4)	219 (4.8)	38 (1.1)	221 (1.2)
Wyoming	37 (1.3)	229 (1.4)	11 (0.9)	232 (1.5)	12 (0.7)	221 (2.0)	4 (0.4)	215 (2.8)	35 (1.1)	219 (1.1)
TERRITORY										
Guam	31 (0.9)	191 (1.6)	6 (0.5)	206 (3.4)	13 (0.8)	186 (2.8)	6 (0.6)	183 (3.7)	44 (1.0)	192 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. The percentages for parents' highest level of education may not add to 100 percent because some students responded "I don't know." ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 2.12 | Average Mathematics Proficiency by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Graduated College		Some Education After High School		Graduated High School		Did Not Finish High School		I Don't Know	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	40 (1.4)	279 (1.4)	18 (0.6)	270 (1.2)	25 (0.8)	256 (1.4)	8 (0.6)	248 (1.8)	9 (0.5)	251 (1.7)
Northeast	38 (3.1)	282 (4.2)	18 (1.1)	267 (3.0)	26 (2.2)	259 (4.2)	8 (0.9)	246 (4.2)	10 (1.2)	250 (3.3)
Southeast	35 (1.9)	270 (1.9)	17 (0.8)	263 (2.0)	28 (1.4)	249 (1.9)	12 (1.6)	246 (4.2)	8 (1.0)	248 (4.3)
Central	42 (2.7)	283 (2.9)	20 (1.4)	273 (1.6)	26 (1.7)	264 (2.3)	4 (0.7)	*** (***)	7 (0.8)	258 (3.8)
West	43 (2.9)	279 (2.6)	18 (1.2)	274 (2.6)	19 (1.5)	252 (2.9)	9 (1.1)	248 (2.4)	11 (0.9)	248 (2.9)
STATES										
Alabama	33 (1.6)	261 (2.5)	18 (0.7)	258 (2.0)	29 (1.1)	244 (1.8)	13 (0.9)	239 (2.0)	7 (0.6)	237 (2.9)
Arizona	36 (1.5)	277 (1.5)	22 (1.0)	270 (1.5)	21 (0.9	256 (1.6)	10 (0.7)	245 (2.5)	12 (0.8)	248 (2.7)
Arkansas	30 (1.1)	264 (1.9)	20 (0.8)	264 (1.7)	31 (1.1)	248 (1.6)	11 (0.7)	246 (2.4)	8 (0.6)	245 (2.7)
California	39 (1.8)	275 (2.0)	18 (1.0)	266 (2.1)	17 (0.9)	251 (2.1)	10 (0.9)	241 (2.2)	16 (1.1)	240 (2.9)
Colorado	46 (1.2)	282 (1.3)	19 (0.9)	276 (1.6)	21 (0.9)	260 (1.5) >	6 (0.6)	250 (2.4)	7 (0.5)	252 (2.6)
Connecticut	47 (1.3)	288 (1.0) >	16 (0.8)	272 (1.8)	22 (0.9)	260 (1.8)	6 (0.6)	245 (3.3)	9 (0.6)	251 (2.4)
Delaware	39 (1.2)	274 (1.3)	18 (1.0)	268 (2.3)	30 (1.0)	251 (1.7)	6 (0.5)	248 (4.0)	8 (0.9)	248 (3.4)
Dist. Columbia	32 (1.0)	244 (1.7)	17 (0.8)	240 (1.9)	29 (0.8)	224 (1.6)	9 (0.7)	225 (3.2)	12 (0.6)	229 (2.2)
Florida	39 (1.5)	268 (1.9)	19 (0.7)	266 (1.9)	24 (1.1)	251 (1.8)	8 (0.7)	244 (2.7)	10 (0.7)	244 (3.2)
Georgia	35 (1.7)	271 (2.1)	18 (0.7)	264 (1.7)	30 (1.2)	250 (1.3)	11 (0.8)	244 (2.2)	6 (0.6)	245 (2.6)
Hawaii	38 (1.1)	267 (1.5)	15 (0.9) <	266 (1.9)	25 (1.0)	246 (1.8)	6 (0.5)	242 (3.5)	16 (0.8)	246 (2.1) >
Idaho	48 (1.2)	281 (0.9)	20 (0.8)	278 (1.3)	19 (0.9)	268 (1.4) >	7 (0.5)	254 (2.3)	6 (0.5)	254 (2.8)
Indiana	33 (1.5)	283 (1.5)	21 (0.9)	275 (1.9)	32 (1.1)	260 (1.6)	8 (0.6)	250 (2.6)	6 (0.5)	249 (3.3)
Iowa	44 (1.4)	291 (1.2) >	21 (0.8)	285 (1.5)	25 (1.1)	273 (1.3)	4 (0.4)	262 (2.4)	5 (0.4)	266 (2.8)
Kentucky	28 (1.4)	278 (1.6) »	19 (0.8)	267 (1.6)	32 (0.9)	254 (1.6)	15 (0.9)	246 (1.7)	6 (0.4)	242 (2.8)
Louisiana	32 (1.4)	256 (2.5)	20 (0.9)	259 (1.8)	30 (1.3)	242 (1.6)	10 (0.7)	237 (2.4)	7 (0.6)	236 (3.7)
Maine	40 (1.5)	288 (1.4)	22 (1.0)	281 (1.5)	26 (1.1)	267 (1.1)	6 (0.5)	259 (2.7)	5 (0.5)	266 (2.6)
Maryland	44 (1.7)	278 (1.8)	18 (0.9)	266 (1.9)	25 (1.2)	250 (1.8)	6 (0.8)	240 (3.7)	7 (0.5)	245 (3.8)
Massachusetts	48 (1.5)	284 (1.3)	17 (0.8)	272 (1.8)	21 (1.0)	261 (1.4)	7 (0.6)	248 (3.2)	7 (0.6)	248 (2.6)
Michigan	38 (1.6)	277 (2.2)	23 (0.9)	271 (2.0)	26 (0.9)	257 (1.7)	6 (0.5)	249 (2.0)	7 (0.6)	248 (3.0)
Minnesota	48 (1.3) >	290 (1.0) >	21 (0.9)	284 (1.8)	22 (0.9) «	270 (1.8) >	3 (0.4)	256 (4.2)	7 (0.6)	268 (3.0)
Mississippi	36 (1.7)	254 (1.6)	16 (0.7)	256 (2.0)	29 (1.4)	239 (1.6)	13 (0.8)	234 (1.8)	7 (0.6)	231 (2.8)
Missouri	36 (1.3)	280 (1.7)	22 (0.9)	275 (1.5)	29 (1.0)	264 (1.6)	8 (0.7)	254 (2.4)	6 (0.5)	252 (2.9)
Nebraska	46 (1.5)	287 (1.2)	20 (1.0)	280 (1.6)	24 (1.2)	267 (1.7)	4 (0.5)	247 (3.3)	6 (0.6)	256 (3.8)
New Hampshire	46 (1.5)	287 (1.4)	17 (0.8)	280 (1.5)	24 (1.1)	267 (0.9) »	6 (0.5)	259 (2.5)	7 (0.5) >	262 (2.5)
New Jersey	45 (1.6)	283 (1.8)	18 (0.8)	275 (2.1)	23 (1.2)	259 (2.5)	7 (0.6)	253 (3.8)	8 (0.7)	250 (3.9)
New Mexico	34 (1.4)	272 (1.4)	20 (0.7)	264 (1.4)	26 (1.1)	249 (1.4)	11 (0.7)	244 (1.9)	10 (0.6)	245 (2.0) >
New York	44 (1.8)	277 (1.9)	18 (1.1)	271 (2.4)	23 (1.0)	256 (2.5)	6 (0.8)	243 (4.2)	10 (1.0)	240 (3.8)
North Carolina	36 (1.2)	271 (1.4) >	20 (0.8)	265 (1.6) >	27 (0.9) <	246 (1.7)	10 (0.6)	240 (2.3)	6 (0.5)	240 (3.6)
North Dakota	54 (1.2) >	289 (1.1)	18 (0.7)	283 (1.9)	19 (1.3)	271 (1.7)	3 (0.5)	259 (4.5)	5 (0.5)	272 (2.8)
Ohio	37 (1.4)	279 (1.8)	19 (0.7)	272 (1.6)	32 (1.1)	260 (2.3)	7 (0.6)	243 (2.6)	5 (0.5)	249 (4.5)
Oklahoma	39 (1.4)	277 (1.5)	21 (0.9)	272 (1.9)	26 (1.0)	257 (1.7)	8 (0.7)	254 (2.9)	6 (0.5)	251 (4.3)
Pennsylvania	39 (1.8)	282 (1.6)	19 (0.9)	274 (1.9)	30 (1.2)	262 (1.6)	7 (0.8)	252 (2.8)	5 (0.5)	252 (3.8)
Rhode Island	43 (1.1)	276 (1.1)	18 (1.5)	271 (1.5)	22 (1.4)	256 (1.6)	8 (0.4)	244 (2.1)	8 (0.6)	239 (2.5)
South Carolina	37 (1.4)	272 (1.5)	16 (0.7)	268 (1.7)	31 (0.9)	248 (1.4)	9 (0.6)	248 (2.1)	7 (0.3)	247 (3.0)
Tennessee	33 (1.5)	267 (2.1)	21 (0.9)	265 (1.8)	29 (1.0)	251 (1.6)	12 (0.8)	245 (2.0)	5 (0.4)	243 (3.6)
Texas	34 (1.6)	281 (2.1) >	18 (0.8) >	272 (1.6)	21 (1.0)	253 (1.6)	16 (1.0)	247 (1.7)	11 (0.8)	244 (2.4)
Utah	53 (1.3)	280 (1.0)	22 (1.0)	278 (1.2)	15 (0.8)	258 (1.8)	3 (0.3)	254 (3.2)	7 (0.5)	258 (2.7)
Virginia	41 (1.5)	282 (1.5)	18 (0.8)	270 (1.6)	24 (0.9)	252 (1.5)	9 (0.6)	248 (2.1)	8 (0.6)	251 (2.5)
West Virginia	29 (1.1)	270 (1.5)	18 (0.8)	269 (1.4)	33 (1.1) <	251 (1.2)	13 (0.9)	244 (1.8)	7 (0.4)	239 (2.3)
Wisconsin	38 (2.4)	287 (1.8)	24 (0.8)	282 (1.5)	28 (1.8)	270 (1.9)	5 (0.6)	254 (3.4)	6 (0.6)	255 (4.0)
Wyoming	42 (0.9)	281 (0.9)	22 (0.8)	278 (1.7)	23 (0.7)	266 (1.1)	5 (0.6)	258 (3.3)	7 (0.5)	260 (2.2) »
TERRITORIES										
Guam	28 (1.2)	246 (1.9)	13 (0.7)	244 (2.4)	27 (1.1)	229 (1.9)	10 (0.9)	224 (2.5)	22 (1.2)	226 (2.0)
Virgin Islands	23 (1.1)	224 (2.0)	11 (0.8)	232 (2.4)	29 (0.9)	221 (1.9)	14 (0.9)	219 (2.4)	24 (1.0)	217 (1.4)

The percentages for parents' highest level of education may not add to 100 percent because some students responded "I don't know." »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 2.12 | Average Mathematics Proficiency by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Graduated College		Some Education After High School		Graduated High School		Did Not Finish High School		I Don't Know	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	39 (1.9)	274 (1.6)	17 (0.9)	267 (1.6)	25 (1.2)	255 (1.5)	10 (0.8)	241 (2.0)	9 (0.7)	240 (3.3)
Northeast	49 (5.8)	282 (3.5)	15 (3.0)	267 (3.5)	23 (3.3)	260 (2.6)	7 (2.2)	*** (***)	7 (1.5)	*** (***)
Southeast	32 (3.3)	272 (3.3)	18 (1.7)	262 (2.5)	27 (1.6)	246 (4.2)	14 (2.1)	237 (3.2)	9 (1.6)	231 (5.0)
Central	35 (1.8)	272 (3.5)	19 (0.9)	268 (3.9)	33 (2.1)	263 (2.3)	7 (0.9)	*** (***)	6 (1.2)	*** (***)
West	42 (4.0)	273 (2.8)	16 (1.2)	269 (2.9)	19 (2.5)	249 (2.6)	10 (1.3)	245 (3.7)	13 (1.2)	241 (5.3)
STATES										
Alabama	34 (1.5)	263 (1.8)	18 (0.7)	260 (1.8)	30 (1.0)	246 (1.7)	12 (0.8)	239 (2.1)	6 (0.5)	238 (3.0)
Arizona	37 (1.2)	272 (1.7)	20 (0.9)	265 (1.9)	22 (0.9)	251 (1.7)	9 (0.6)	240 (2.2)	11 (0.8)	243 (2.1)
Arkansas	31 (1.1)	267 (1.4)	17 (0.8)	266 (1.6)	32 (0.9)	250 (1.2)	12 (0.6)	244 (1.5)	8 (0.6)	238 (2.6)
California	38 (1.6)	271 (1.8)	18 (0.7)	263 (2.0)	17 (0.9)	246 (1.8)	11 (0.7)	241 (2.6)	16 (0.9)	238 (1.9)
Colorado	47 (1.6)	277 (1.2)	19 (0.9)	271 (1.3)	19 (0.9)	254 (1.5)	7 (0.7)	243 (2.5)	8 (0.6)	249 (2.5)
Connecticut	47 (1.6)	284 (1.0)	16 (0.8)	269 (1.6)	23 (1.2)	256 (1.9)	5 (0.4)	243 (3.0)	7 (0.7)	248 (3.6)
Delaware	38 (0.9)	275 (1.6)	17 (0.8)	265 (1.9)	31 (1.0)	249 (1.8)	8 (0.8)	243 (2.7)	6 (0.5)	244 (3.5)
Dist. Columbia	34 (1.2)	239 (1.9)	17 (0.8)	238 (1.8)	31 (1.0)	224 (1.4)	8 (0.7)	225 (2.2)	10 (0.7)	221 (2.4)
Florida	37 (1.3)	267 (1.6)	18 (0.7)	263 (1.7)	26 (0.9)	245 (1.5)	9 (0.9)	237 (2.6)	10 (0.7)	242 (2.7)
Georgia	36 (1.8)	272 (2.1)	18 (0.9)	267 (1.8)	29 (1.1)	248 (1.7)	11 (0.9)	245 (1.8)	6 (0.6)	240 (3.4)
Hawaii	36 (1.0)	262 (1.3)	18 (0.7)	261 (1.9)	27 (0.9)	241 (1.5)	5 (0.5)	235 (3.2)	14 (0.8)	236 (2.6)
Idaho	46 (1.3)	279 (1.1)	22 (0.9)	274 (1.3)	19 (0.7)	262 (1.5)	6 (0.5)	251 (2.4)	7 (0.6)	254 (3.5)
Indiana	35 (1.4)	278 (1.6)	21 (0.9)	272 (1.6)	31 (1.1)	260 (1.4)	8 (0.7)	251 (2.8)	4 (0.4)	246 (3.0)
Iowa	42 (1.3)	285 (1.5)	21 (0.9)	282 (1.4)	27 (1.0)	270 (1.6)	5 (0.6)	258 (3.3)	4 (0.5)	266 (2.9)
Kentucky	26 (1.7)	268 (1.9)	18 (0.8)	269 (1.4)	32 (1.1)	253 (1.3)	16 (1.1)	240 (1.9)	8 (0.7)	242 (2.9)
Louisiana	28 (1.2)	254 (2.1)	19 (0.9)	255 (1.4)	33 (1.1)	242 (1.6)	13 (0.8)	235 (2.1)	7 (0.5)	236 (2.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	43 (1.8)	274 (1.8)	17 (0.7)	263 (2.0)	27 (1.3)	247 (1.6)	7 (0.7)	244 (3.1)	6 (0.4)	247 (2.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	39 (1.5)	275 (1.5)	20 (0.8)	269 (1.7)	27 (1.0)	255 (1.7)	6 (0.6)	248 (2.5)	8 (0.6)	250 (2.4)
Minnesota	42 (1.2)	285 (1.3)	22 (0.8)	282 (1.5)	27 (1.0)	263 (1.6)	4 (0.3)	252 (3.6)	6 (0.4)	258 (2.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	43 (1.0)	286 (1.3)	20 (0.7)	278 (1.4)	27 (1.1)	266 (1.7)	4 (0.5)	251 (5.2)	6 (0.5)	257 (3.6)
New Hampshire	46 (0.9)	283 (1.2)	19 (0.9)	275 (1.7)	25 (0.8)	261 (1.2)	6 (0.6)	257 (2.7)	4 (0.5)	255 (3.2)
New Jersey	45 (1.5)	281 (1.4)	16 (1.0)	270 (2.1)	24 (1.1)	260 (1.7)	7 (0.5)	250 (2.5)	8 (0.6)	250 (2.7)
New Mexico	33 (1.0)	272 (1.6)	19 (0.8)	263 (1.5)	27 (1.1)	248 (1.2)	11 (0.8)	241 (1.7)	9 (0.7)	234 (2.5)
New York	40 (1.2)	273 (1.3)	17 (0.9)	265 (2.3)	22 (0.9)	252 (1.9)	8 (0.7)	242 (2.8)	12 (0.8)	242 (3.6)
North Carolina	33 (1.3)	263 (1.9)	17 (0.8)	258 (1.6)	32 (1.0)	242 (1.3)	11 (0.7)	235 (1.9)	7 (0.5)	230 (2.9)
North Dakota	49 (1.3)	288 (1.4)	19 (0.8)	282 (2.0)	24 (1.3)	273 (2.5)	4 (0.7)	254 (4.4)	4 (0.5)	263 (3.7)
Ohio	36 (1.7)	274 (1.5)	20 (0.8)	269 (1.4)	32 (1.1)	257 (1.3)	7 (0.7)	246 (2.1)	5 (0.5)	239 (3.0)
Oklahoma	40 (1.7)	273 (1.7)	21 (0.9)	266 (2.0)	26 (1.3)	254 (1.3)	8 (0.6)	250 (3.0)	6 (0.6)	248 (3.7)
Pennsylvania	35 (1.4)	281 (2.0)	20 (0.9)	271 (1.6)	34 (1.2)	256 (1.7)	6 (0.6)	247 (3.1)	5 (0.6)	243 (4.2)
Rhode Island	41 (1.0)	274 (1.1)	15 (0.7)	266 (1.8)	26 (1.0)	252 (1.3)	8 (0.6)	240 (2.3)	10 (0.7)	236 (2.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	34 (1.5)	274 (1.5)	15 (0.6)	266 (2.0)	23 (1.1)	248 (1.7)	17 (1.1)	243 (1.8)	10 (0.8)	243 (2.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	40 (1.5)	280 (2.1)	16 (0.8)	267 (1.7)	27 (1.0)	251 (1.3)	10 (0.7)	242 (2.3)	7 (0.5)	248 (2.6)
West Virginia	27 (1.5)	270 (1.5)	17 (0.8)	263 (1.6)	38 (1.3)	250 (1.1)	12 (0.9)	241 (1.7)	5 (0.5)	240 (3.0)
Wisconsin	34 (1.4)	284 (1.8)	23 (0.9)	278 (1.5)	31 (1.1)	269 (1.4)	5 (0.5)	253 (3.3)	6 (0.5)	254 (3.0)
Wyoming	43 (1.0)	280 (0.9)	23 (0.8)	276 (1.1)	23 (1.0)	263 (1.3)	5 (0.4)	255 (2.3)	6 (0.5)	246 (2.7)
TERRITORIES										
Guam	27 (1.1)	243 (1.4)	11 (0.8)	248 (2.7)	30 (1.2)	227 (1.6)	10 (0.7)	219 (2.7)	22 (1.3)	223 (1.8)
Virgin Islands	21 (1.4)	220 (1.4)	10 (0.7)	228 (2.8)	29 (1.5)	220 (1.6)	15 (1.0)	211 (2.8)	24 (1.3)	216 (1.9)

The percentages for parents' highest level of education may not add to 100 percent because some students responded "I don't know." (xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.13 | Achievement Levels by Parents' Highest Level of Education

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	4 (0.7)	2 (0.7)	1 (0.5)	0 (0.3)	1 (0.3)	25 (2.0)	21 (2.5)	12 (1.8)	5 (1.9)	12 (1.1)
Northeast	6 (1.8)	6 (2.7)	1 (1.3)	*** (***)	1 (0.7)	33 (4.8)	29 (4.7)	12 (4.5)	*** (***)	15 (2.5)
Southeast	3 (0.7)	0 (0.4)	0 (0.0)	1 (1.1)	0 (0.5)	16 (1.7)	17 (5.3)	6 (2.6)	5 (2.7)	7 (0.9)
Central	4 (1.1)	2 (1.4)	1 (1.4)	*** (***)	1 (1.1)	27 (2.5)	21 (5.1)	18 (3.9)	*** (***)	14 (2.2)
West	4 (1.8)	1 (1.3)	0 (0.5)	0 (0.9)	1 (0.6)	23 (3.9)	19 (4.0)	14 (4.1)	5 (2.6)	12 (2.5)
STATES										
Alabama	1 (0.5)	1 (0.7)	0 (0.4)	0 (0.2)	0 (0.2)	13 (2.2)	15 (2.2)	8 (1.6)	7 (2.2)	8 (1.3)
Arizona	1 (0.5)	3 (1.2)	1 (0.6)	1 (1.2)	1 (0.4)	19 (1.6)	21 (3.1)	10 (2.1)	5 (2.0)	9 (1.2)
Arkansas	1 (0.6)	1 (0.6)	0 (0.3)	0 (0.0)	0 (0.3)	15 (1.6)	14 (2.5)	8 (1.4)	4 (2.0)	7 (1.0)
California	3 (1.0)	1 (1.1)	0 (0.3)	1 (0.4)	1 (0.4)	18 (1.9)	17 (3.0)	7 (2.0)	5 (2.0)	10 (1.4)
Colorado	4 (0.8)	3 (1.6)	1 (0.6)	1 (1.0)	1 (0.4)	26 (1.6)	23 (3.5)	9 (2.2)	5 (2.0)	12 (1.3)
Connecticut	6 (1.1)	3 (1.5)	2 (1.0)	1 (1.6)	2 (0.6)	34 (2.2)	25 (4.1)	15 (2.5)	7 (3.7)	19 (1.6)
Delaware	5 (0.9)	0 (1.2)	0 (0.4)	0 (0.0)	1 (0.5)	27 (2.1)	15 (5.1)	11 (2.0)	3 (2.6)	11 (1.5)
Dist. Columbia	2 (0.5)	1 (0.8)	0 (0.3)	0 (0.0)	0 (0.1)	9 (0.7)	7 (2.4)	2 (0.9)	1 (1.7)	3 (0.6)
Florida	3 (0.8)	2 (1.6)	0 (0.1)	0 (0.0)	0 (0.2)	19 (2.4)	23 (3.2)	7 (1.9)	3 (2.3)	9 (1.2)
Georgia	3 (0.9)	2 (1.1)	0 (0.3)	0 (0.7)	1 (0.2)	24 (2.2)	20 (3.2)	9 (2.0)	6 (2.4)	11 (1.4)
Hawaii	2 (0.6)	2 (1.2)	1 (0.5)	0 (0.0)	1 (0.4)	20 (1.7)	20 (3.2)	9 (1.6)	7 (5.0)	13 (1.2)
Idaho	2 (0.8)	1 (1.0)	0 (0.4)	0 (0.5)	1 (0.3)	23 (2.0)	22 (3.2)	10 (2.2)	3 (1.7)	12 (1.0)
Indiana	3 (0.7)	2 (1.6)	1 (0.5)	0 (0.4)	1 (0.5)	24 (2.0)	25 (4.1)	13 (1.9)	6 (3.2)	10 (1.1)
Iowa	5 (0.8)	4 (1.7)	2 (0.9)	0 (0.0)	2 (0.5)	35 (2.2)	34 (3.2)	19 (2.7)	10 (4.1)	21 (1.8)
Kentucky	3 (1.0)	2 (1.5)	1 (0.8)	0 (0.2)	1 (0.5)	21 (2.0)	20 (3.2)	10 (1.4)	6 (1.7)	8 (1.4)
Louisiana	1 (0.6)	1 (1.3)	0 (0.5)	0 (0.0)	0 (0.1)	11 (1.7)	14 (4.0)	5 (1.7)	3 (1.4)	6 (0.9)
Maine	5 (1.0)	4 (1.8)	1 (0.8)	0 (0.0)	2 (0.8)	40 (2.7)	40 (4.2)	20 (3.0)	9 (4.9)	19 (2.0)
Maryland	4 (0.7)	4 (1.6)	1 (0.8)	1 (1.0)	1 (0.5)	26 (1.7)	26 (3.3)	12 (1.8)	5 (2.4)	13 (1.4)
Massachusetts	5 (1.0)	3 (1.4)	1 (0.8)	0 (0.0)	1 (0.5)	34 (1.8)	27 (4.8)	16 (2.4)	4 (3.8)	14 (1.5)
Michigan	3 (0.8)	1 (0.8)	0 (0.2)	0 (0.0)	1 (0.7)	29 (2.3)	22 (3.2)	9 (1.7)	6 (3.2)	13 (2.0)
Minnesota	6 (1.1)	2 (1.4)	1 (0.6)	*** (***)	2 (0.5)	37 (2.3)	29 (3.9)	18 (3.2)	*** (***)	21 (1.3)
Mississippi	1 (0.3)	0 (0.0)	0 (0.4)	0 (0.3)	0 (0.2)	9 (1.3)	10 (3.4)	6 (1.4)	2 (1.2)	4 (0.7)
Missouri	3 (0.7)	2 (1.1)	1 (0.7)	0 (0.0)	1 (0.5)	28 (2.4)	23 (3.7)	15 (2.1)	9 (2.7)	12 (1.8)
Nebraska	4 (1.0)	3 (1.8)	3 (1.0)	*** (***)	1 (0.5)	28 (2.9)	29 (3.5)	20 (2.9)	*** (***)	16 (1.7)
New Hampshire	5 (1.1)	2 (1.0)	1 (1.1)	1 (1.7)	2 (0.5)	34 (2.5)	27 (4.7)	16 (2.8)	13 (4.6)	19 (2.0)
New Jersey	5 (1.1)	3 (2.6)	2 (1.0)	0 (0.0)	2 (0.9)	35 (2.4)	27 (5.2)	14 (2.5)	8 (5.8)	16 (1.9)
New Mexico	2 (1.1)	1 (1.0)	0 (0.4)	0 (0.0)	0 (0.3)	19 (2.1)	16 (4.7)	9 (1.8)	4 (1.6)	6 (1.2)
New York	4 (0.6)	2 (1.3)	1 (0.5)	0 (0.0)	1 (0.5)	26 (2.5)	22 (4.7)	8 (2.1)	10 (4.7)	11 (1.6)
North Carolina	3 (0.8)	2 (1.0)	1 (0.4)	0 (0.0)	1 (0.2)	20 (1.5)	19 (2.5)	8 (1.4)	4 (2.2)	8 (1.0)
North Dakota	3 (0.6)	2 (1.3)	2 (1.0)	*** (***)	1 (0.4)	30 (1.9)	32 (4.1)	19 (2.9)	*** (***)	14 (1.6)
Ohio	4 (0.6)	1 (0.9)	0 (0.4)	0 (0.0)	1 (0.4)	27 (2.3)	17 (3.2)	12 (2.3)	7 (2.7)	10 (1.3)
Oklahoma	2 (0.8)	2 (1.4)	0 (0.0)	0 (1.1)	1 (0.4)	20 (2.0)	18 (2.5)	9 (2.0)	5 (3.0)	11 (1.4)
Pennsylvania	4 (1.1)	5 (1.9)	1 (0.9)	0 (0.4)	2 (0.5)	30 (2.4)	38 (4.4)	17 (2.3)	8 (3.0)	14 (1.6)
Rhode Island	3 (0.9)	1 (1.1)	0 (0.3)	0 (0.0)	1 (0.5)	22 (2.0)	15 (3.6)	6 (2.0)	3 (1.6)	10 (1.3)
South Carolina	3 (0.6)	2 (1.2)	0 (0.3)	0 (0.0)	0 (0.3)	22 (1.8)	16 (3.0)	6 (1.2)	6 (2.8)	8 (1.5)
Tennessee	2 (0.5)	1 (0.7)	0 (0.2)	0 (0.0)	0 (0.1)	18 (2.0)	11 (2.9)	5 (1.3)	3 (1.6)	6 (0.9)
Texas	3 (1.0)	2 (1.4)	1 (0.9)	0 (0.9)	1 (0.5)	22 (2.6)	23 (3.9)	11 (2.7)	9 (2.0)	11 (1.5)
Utah	3 (0.6)	2 (0.5)	1 (0.4)	0 (0.0)	1 (0.4)	27 (1.9)	23 (3.1)	13 (2.3)	7 (3.8)	14 (1.1)
Virginia	6 (1.3)	2 (1.4)	1 (0.6)	0 (0.0)	1 (0.6)	30 (2.6)	15 (2.7)	10 (1.8)	4 (1.7)	13 (1.6)
West Virginia	3 (0.9)	1 (1.1)	0 (0.3)	0 (0.0)	1 (0.4)	21 (1.9)	17 (2.6)	9 (1.5)	4 (1.5)	9 (1.3)
Wisconsin	5 (1.0)	2 (1.7)	2 (1.0)	5 (4.3)	1 (0.5)	33 (2.8)	38 (4.2)	21 (2.5)	15 (5.7)	17 (1.7)
Wyoming	2 (0.6)	1 (0.8)	1 (0.8)	0 (0.6)	1 (0.4)	25 (2.1)	29 (3.7)	16 (2.5)	8 (2.6)	13 (1.1)
TERRITORY										
Guam	0 (0.4)	3 (1.5)	0 (0.4)	0 (0.0)	0 (0.2)	5 (1.0)	14 (3.1)	3 (1.2)	3 (2.4)	5 (0.8)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 2.13 | Achievement Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	68 (1.4)	68 (3.3)	54 (2.8)	40 (5.2)	52 (1.5)	32 (1.4)	32 (3.3)	46 (2.8)	60 (5.2)	48 (1.5)
Northeast	73 (3.5)	74 (7.7)	57 (8.5)	*** (***)	56 (3.3)	27 (3.5)	26 (7.7)	43 (8.5)	*** (***)	44 (3.3)
Southeast	56 (3.1)	58 (6.1)	42 (4.6)	34 (7.8)	42 (2.2)	44 (3.1)	42 (6.1)	58 (4.6)	66 (7.8)	58 (2.2)
Central	74 (3.2)	80 (8.1)	61 (5.2)	*** (***)	57 (4.1)	26 (3.2)	20 (8.1)	39 (5.2)	*** (***)	43 (4.1)
West	67 (2.6)	63 (5.2)	59 (5.1)	38(10.2)	52 (3.0)	33 (2.6)	37 (5.2)	41 (5.1)	62(10.2)	48 (3.0)
STATES										
Alabama	50 (3.3)	55 (3.8)	42 (3.2)	37 (4.1)	40 (3.0)	50 (3.3)	45 (3.8)	58 (3.2)	63 (4.1)	60 (3.0)
Arizona	63 (2.3)	70 (3.1)	51 (4.2)	40 (5.2)	49 (2.4)	37 (2.3)	30 (3.1)	49 (4.2)	60 (5.2)	51 (2.4)
Arkansas	53 (2.5)	58 (4.2)	48 (3.2)	33 (3.7)	46 (2.2)	47 (2.5)	42 (4.2)	52 (3.2)	67 (3.7)	54 (2.2)
California	59 (2.8)	62 (4.5)	40 (4.1)	30 (6.7)	41 (2.5)	41 (2.8)	38 (4.5)	60 (4.1)	70 (6.7)	59 (2.5)
Colorado	73 (1.8)	74 (2.7)	54 (3.7)	37 (4.7)	54 (1.8)	27 (1.8)	26 (2.7)	46 (3.7)	63 (4.7)	46 (1.8)
Connecticut	79 (1.4)	69 (4.4)	62 (4.0)	42 (4.5)	61 (2.6)	21 (1.4)	31 (4.4)	38 (4.0)	58 (4.5)	39 (2.6)
Delaware	65 (2.1)	63 (3.7)	53 (3.1)	30 (4.8)	50 (2.2)	35 (2.1)	37 (3.7)	47 (3.1)	70 (4.8)	50 (2.2)
Dist. Columbia	31 (1.5)	31 (4.2)	19 (2.7)	20 (4.6)	20 (1.5)	69 (1.5)	69 (4.2)	81 (2.7)	80 (4.6)	80 (1.5)
Florida	62 (3.2)	65 (4.0)	45 (3.2)	33 (3.4)	48 (2.3)	38 (3.2)	35 (4.0)	55 (3.2)	67 (3.4)	52 (2.3)
Georgia	63 (2.4)	69 (4.0)	45 (2.7)	37 (5.3)	51 (2.4)	37 (2.4)	31 (4.0)	55 (2.7)	63 (5.3)	49 (2.4)
Hawaii	61 (2.8)	65 (3.7)	39 (3.0)	37 (6.6)	52 (2.2)	39 (2.8)	35 (3.7)	61 (3.0)	63 (6.6)	48 (2.2)
Idaho	72 (2.0)	75 (4.1)	58 (3.7)	33 (5.7)	58 (2.0)	28 (2.0)	25 (4.1)	42 (3.7)	67 (5.7)	42 (2.0)
Indiana	70 (1.9)	76 (4.5)	57 (3.3)	47 (4.3)	54 (2.4)	30 (1.9)	24 (4.5)	43 (3.3)	53 (4.3)	46 (2.4)
Iowa	81 (1.7)	82 (3.2)	68 (2.9)	57 (5.0)	68 (2.1)	19 (1.7)	18 (3.2)	32 (2.9)	43 (5.0)	32 (2.1)
Kentucky	64 (2.7)	64 (3.9)	48 (2.6)	38 (3.9)	48 (1.9)	36 (2.7)	36 (3.9)	52 (2.6)	62 (3.9)	52 (1.9)
Louisiana	46 (2.7)	58 (3.7)	32 (2.9)	26 (5.0)	38 (2.7)	54 (2.7)	42 (3.7)	68 (2.9)	74 (5.0)	62 (2.7)
Maine	86 (1.7)	88 (2.8)	71 (3.2)	60 (7.3)	68 (2.4)	14 (1.7)	12 (2.8)	29 (3.2)	40 (7.3)	32 (2.4)
Maryland	65 (2.1)	68 (4.2)	47 (3.7)	37 (5.3)	50 (2.5)	35 (2.1)	32 (4.2)	53 (3.7)	63 (5.3)	50 (2.5)
Massachusetts	79 (1.6)	77 (3.7)	62 (2.9)	29 (7.4)	60 (2.3)	21 (1.6)	23 (3.7)	38 (2.9)	71 (7.4)	40 (2.3)
Michigan	70 (2.7)	71 (4.2)	57 (3.9)	42 (7.7)	54 (2.2)	30 (2.7)	29 (4.2)	43 (3.9)	58 (7.7)	46 (2.2)
Minnesota	81 (1.7)	78 (3.8)	65 (2.6)	*** (***)	66 (2.1)	19 (1.7)	22 (3.8)	35 (2.6)	*** (***)	34 (2.1)
Mississippi	42 (2.1)	53 (4.4)	34 (3.2)	27 (4.0)	33 (2.0)	58 (2.1)	47 (4.4)	66 (3.2)	73 (4.0)	67 (2.0)
Missouri	72 (2.3)	72 (3.0)	57 (3.5)	47 (4.1)	57 (2.1)	28 (2.3)	28 (3.0)	43 (3.5)	53 (4.1)	43 (2.1)
Nebraska	74 (2.1)	77 (2.9)	64 (4.0)	*** (***)	62 (2.2)	26 (2.1)	23 (2.9)	36 (4.0)	*** (***)	38 (2.2)
New Hampshire	81 (1.5)	82 (3.5)	67 (2.8)	49 (5.7)	67 (2.4)	19 (1.5)	18 (3.5)	33 (2.8)	51 (5.7)	33 (2.4)
New Jersey	78 (2.1)	77 (3.2)	63 (4.0)	50 (9.2)	60 (3.1)	22 (2.1)	23 (3.2)	37 (4.0)	50 (9.2)	40 (3.1)
New Mexico	63 (2.9)	68 (5.1)	45 (3.8)	37 (5.7)	44 (2.4)	37 (2.9)	32 (5.1)	55 (3.8)	63 (5.7)	56 (2.4)
New York	70 (2.1)	71 (4.5)	54 (3.5)	48 (5.6)	48 (2.3)	30 (2.1)	29 (4.5)	46 (3.5)	52 (5.6)	52 (2.3)
North Carolina	60 (2.2)	65 (3.9)	42 (2.9)	35 (4.1)	47 (2.4)	40 (2.2)	35 (3.9)	58 (2.9)	65 (4.1)	53 (2.4)
North Dakota	81 (1.5)	82 (4.7)	69 (3.2)	*** (***)	67 (2.4)	19 (1.5)	18 (4.7)	31 (3.2)	*** (***)	33 (2.4)
Ohio	70 (2.1)	66 (4.8)	57 (3.4)	39 (5.2)	50 (2.0)	30 (2.1)	34 (4.8)	43 (3.4)	61 (5.2)	50 (2.0)
Oklahoma	69 (2.2)	72 (3.1)	57 (3.4)	50 (5.9)	54 (2.1)	31 (2.2)	28 (3.1)	43 (3.4)	50 (5.9)	46 (2.1)
Pennsylvania	75 (2.5)	80 (2.7)	66 (2.8)	54 (7.3)	56 (2.7)	25 (2.5)	20 (2.7)	34 (2.8)	46 (7.3)	44 (2.7)
Rhode Island	68 (2.7)	65 (4.0)	49 (4.8)	35 (5.2)	47 (3.1)	32 (2.7)	35 (4.0)	51 (4.8)	65 (5.2)	53 (3.1)
South Carolina	59 (2.1)	62 (4.3)	43 (3.3)	38 (5.3)	41 (2.3)	41 (2.1)	38 (4.3)	57 (3.3)	62 (5.3)	59 (2.3)
Tennessee	60 (3.0)	54 (4.1)	42 (3.3)	39 (3.7)	43 (2.3)	41 (3.0)	46 (4.1)	58 (3.3)	61 (3.7)	57 (2.3)
Texas	65 (2.5)	72 (4.7)	55 (3.7)	51 (4.7)	51 (2.3)	35 (2.5)	28 (4.7)	45 (3.7)	49 (4.7)	49 (2.3)
Utah	76 (1.7)	77 (3.1)	61 (4.3)	43 (7.9)	60 (2.1)	24 (1.7)	23 (3.1)	39 (4.3)	57 (7.9)	40 (2.1)
Virginia	71 (2.1)	64 (4.0)	49 (3.0)	40 (5.7)	52 (2.3)	29 (2.1)	36 (4.0)	51 (3.0)	60 (5.7)	48 (2.3)
West Virginia	66 (2.1)	67 (3.4)	50 (2.6)	35 (4.3)	47 (2.4)	34 (2.1)	33 (3.4)	50 (2.6)	65 (4.3)	53 (2.4)
Wisconsin	79 (1.9)	84 (2.7)	70 (3.5)	61 (5.1)	66 (1.8)	21 (1.9)	16 (2.7)	30 (3.5)	39 (5.1)	34 (1.8)
Wyoming	76 (1.8)	82 (3.1)	68 (3.3)	59 (6.3)	62 (2.2)	24 (1.8)	18 (3.1)	32 (3.3)	41 (6.3)	38 (2.2)
TERRITORY										
Guam	29 (2.1)	49 (5.0)	22 (3.0)	20 (5.0)	28 (2.0)	71 (2.1)	51 (5.0)	78 (3.0)	80 (5.0)	72 (2.0)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One.

TABLE 2.13 | Achievement Levels by Parents' Highest Level of Education (continued)

	Grade 8 - 1992									
	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
PUBLIC SCHOOLS	**Graduated College**	**Some Education After High School**	**Graduated High School**	**Did Not Finish High School**	**I Don't Know**	**Graduated College**	**Some Education After High School**	**Graduated High School**	**Did Not Finish High School**	**I Don't Know**
NATION	6 (1.0)	3 (0.7)	1 (0.4)	1 (0.5)	1 (0.6)	36 (1.9)	24 (1.5)	13 (1.3)	8 (1.8)	11 (1.9)
Northeast	10 (2.7)	5 (2.1)	1 (1.4)	0 (0.5)	1 (2.3)	43 (5.4)	21 (4.2)	14 (3.7)	9 (4.7)	9 (3.7)
Southeast	3 (1.0)	1 (0.8)	1 (0.5)	0 (0.0)	0 (0.5)	26 (2.2)	19 (1.8)	9 (1.2)	6 (3.0)	9 (3.0)
Central	5 (1.8)	3 (1.3)	1 (0.7)	*** (***)	0 (0.4)	41 (4.0)	26 (2.0)	16 (3.5)	*** (***)	13 (3.9)
West	7 (2.1)	4 (1.8)	1 (0.5)	0 (0.0)	0 (0.5)	35 (3.5)	27 (3.2)	11 (2.8)	8 (3.2)	11 (2.9)
STATES										
Alabama	3 (0.9)	1 (0.5)	0 (0.2)	0 (0.1)	0 (0.0)	21 (2.3)	15 (2.0)	7 (1.1)	4 (1.4)	4 (1.8)
Arizona	3 (0.8)	2 (0.8)	0 (0.3)	0 (0.2)	0 (0.5)	31 (2.1)	20 (2.3)	10 (2.0)	5 (1.4)	5 (1.7)
Arkansas	2 (0.6)	1 (0.8)	0 (0.2)	0 (0.4)	0 (0.6)	20 (1.8)	17 (2.3)	8 (1.2)	6 (1.7)	6 (2.3)
California	6 (1.5)	1 (0.9)	1 (0.5)	1 (0.4)	0 (0.3)	32 (2.3)	21 (3.2)	10 (1.8)	5 (1.7)	8 (2.2)
Colorado	4 (0.8)	2 (0.7)	1 (0.5)	0 (0.3)	0 (0.2)	37 (1.9)	27 (2.5)	13 (1.5)	7 (2.1)	9 (2.1)
Connecticut	8 (1.3)	1 (0.7)	1 (0.5)	0 (0.3)	1 (0.8)	45 (1.4)	25 (3.6)	15 (1.5)	8 (2.6)	10 (2.1)
Delaware	5 (0.8)	3 (0.8)	1 (0.4)	1 (1.2)	0 (0.3)	30 (2.3)	20 (3.0)	9 (1.3)	7 (2.5)	6 (3.2)
Dist. Columbia	2 (0.7)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	11 (1.6)	4 (1.5)	2 (1.1)	3 (2.2)	3 (1.3)
Florida	3 (0.8)	1 (0.8)	0 (0.4)	0 (0.0)	1 (0.7)	26 (2.2)	20 (2.2)	10 (1.5)	7 (1.9)	7 (1.7)
Georgia	3 (0.7)	1 (0.4)	1 (0.5)	0 (0.0)	0 (0.3)	27 (2.3)	19 (2.4)	8 (1.1)	5 (1.4)	6 (2.1)
Hawaii	4 (0.7)	1 (0.8)	1 (0.4)	1 (1.6)	1 (0.5)	25 (1.9)	23 (2.8)	8 (1.3)	7 (2.5)	9 (1.7)
Idaho	4 (0.7)	3 (0.9)	1 (0.8)	0 (0.6)	1 (1.3)	34 (1.6)	30 (2.5)	18 (1.9)	9 (2.6)	10 (3.0)
Indiana	7 (1.1)	2 (0.8)	1 (0.4)	1 (0.5)	1 (0.7)	39 (2.2)	28 (2.8)	12 (1.2)	7 (2.3)	8 (2.8)
Iowa	8 (1.2)	3 (0.8)	2 (0.7)	0 (0.0)	0 (1.1)	49 (1.7) >	40 (2.8)	22 (1.7)	9 (3.2)	18 (3.2)
Kentucky	5 (0.9)	1 (0.7)	0 (0.2)	0 (0.1)	1 (1.0)	32 (2.4) >	20 (2.3)	9 (1.3)	5 (1.4)	6 (2.0)
Louisiana	1 (0.6)	0 (0.1)	0 (0.2)	0 (0.0)	0 (0.0)	16 (2.2)	12 (1.6)	5 (1.0)	2 (1.0)	4 (1.7)
Maine	6 (1.0)	4 (1.3)	1 (0.8)	0 (0.9)	1 (1.7)	44 (2.8)	31 (3.0)	17 (2.2)	11 (3.2)	16 (3.7)
Maryland	7 (1.1)	2 (0.9)	1 (0.4)	0 (0.0)	0 (0.6)	37 (2.1)	24 (3.3)	10 (1.6)	8 (2.6)	7 (3.0)
Massachusetts	6 (1.0)	1 (0.7)	1 (0.3)	0 (0.7)	0 (0.0)	41 (2.0)	24 (2.6)	15 (1.9)	5 (1.8)	8 (2.6)
Michigan	6 (1.0)	2 (0.7)	0 (0.2)	0 (0.3)	1 (0.6)	34 (3.0)	24 (2.4)	13 (1.3)	6 (2.6)	10 (3.2)
Minnesota	8 (1.0)	5 (1.1)	2 (0.6)	0 (0.0)	2 (1.5)	47 (1.7) >	38 (2.3)	22 (2.5)	9 (3.8)	21 (4.2)
Mississippi	1 (0.4)	0 (0.4)	0 (0.1)	0 (0.4)	0 (0.0)	13 (1.3)	11 (2.1)	5 (1.0)	2 (0.9)	4 (1.7)
Missouri	5 (0.9)	2 (0.8)	1 (0.3)	1 (0.6)	1 (0.6)	35 (2.3)	26 (2.4)	15 (1.6)	8 (2.4)	8 (2.2)
Nebraska	6 (0.9)	3 (1.1)	1 (0.7)	0 (0.5)	0 (0.4)	44 (2.1)	33 (3.1)	18 (2.6)	5 (2.1)	10 (2.5)
New Hampshire	6 (1.2)	3 (1.0)	1 (0.4)	0 (0.0)	1 (0.8)	42 (2.2)	30 (2.7)	17 (2.0)	9 (2.5)	14 (3.4)
New Jersey	7 (1.2)	3 (1.0)	1 (0.5)	1 (1.0)	0 (0.9)	40 (2.1)	28 (2.9)	14 (2.9)	8 (2.4)	11 (3.3)
New Mexico	3 (0.8)	1 (0.5)	0 (0.3)	0 (0.1)	0 (0.0)	25 (2.2)	15 (1.9)	5 (1.0)	6 (1.9)	5 (2.3)
New York	7 (1.1)	2 (0.8)	1 (0.5)	1 (0.7)	1 (0.7)	35 (2.3)	25 (2.6)	14 (2.5)	6 (2.1)	8 (2.2)
North Carolina	3 (0.7)	1 (0.7)	0 (0.3)	0 (0.0)	1 (0.7)	26 (1.8)	17 (1.6)	6 (1.2)	4 (1.6)	5 (2.1)
North Dakota	5 (0.8)	3 (1.0)	1 (0.4)	2 (1.9)	2 (1.2)	44 (2.0)	35 (3.3)	20 (2.5)	11 (4.3)	22 (5.4)
Ohio	5 (0.9)	2 (0.8)	0 (0.4)	0 (0.0)	0 (0.4)	36 (2.5)	24 (2.1)	12 (1.4)	3 (1.7)	7 (4.8)
Oklahoma	3 (0.6)	1 (0.7)	0 (0.3)	0 (0.3)	0 (0.8)	30 (1.9)	24 (2.3)	12 (1.6)	9 (2.9)	9 (3.1)
Pennsylvania	5 (1.2)	3 (1.4)	2 (0.5)	0 (0.3)	1 (1.2)	39 (2.1)	25 (2.3)	16 (1.6)	9 (2.4)	10 (3.1)
Rhode Island	3 (0.6)	1 (0.7)	1 (0.5)	1 (0.6)	0 (0.0)	30 (2.3)	21 (3.5)	9 (1.9)	8 (2.1)	4 (1.8)
South Carolina	5 (1.1)	1 (0.6)	0 (0.2)	1 (0.8)	0 (0.6)	30 (1.9)	21 (2.2)	8 (1.4)	7 (1.6)	8 (2.6)
Tennessee	3 (1.0)	1 (0.5)	0 (0.3)	0 (0.0)	0 (0.0)	23 (2.5)	18 (2.7)	8 (1.2)	5 (1.4)	8 (3.1)
Texas	9 (1.5)	3 (0.8)	0 (0.3)	0 (0.5)	1 (0.7)	38 (2.5)	25 (2.5)	9 (1.9)	6 (1.3)	8 (2.3)
Utah	4 (0.8)	3 (0.8)	0 (0.1)	1 (1.3)	2 (1.1)	33 (1.4)	28 (2.2)	13 (2.0)	8 (4.9)	16 (3.4)
Virginia	7 (1.2)	1 (0.7)	0 (0.2)	0 (0.0)	1 (0.5)	38 (2.3)	22 (2.1)	10 (1.5)	6 (2.4)	7 (2.5)
West Virginia	2 (0.6)	1 (0.4)	0 (0.3)	0 (0.3)	0 (0.0)	22 (2.1)	18 (2.0)	7 (0.9)	4 (1.0)	3 (1.2)
Wisconsin	7 (1.0)	3 (0.9)	2 (0.8)	1 (1.1)	2 (1.2)	43 (2.1)	36 (2.0)	21 (1.7)	11 (3.8)	14 (3.0)
Wyoming	4 (0.9)	2 (0.9)	1 (0.4)	0 (0.4)	1 (1.2)	34 (1.2)	29 (3.0)	16 (1.8)	10 (3.3)	12 (3.5)
TERRITORIES										
Guam	1 (0.5)	1 (0.6	0 (0.3)	1 (0.8)	1 (0.5)	13 (1.6)	9 (2.0)	4 (0.9)	4 (1.8)	4 (1.1)
Virgin Islands	0 (0.3)	0 (0.	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.8)	2 (1.5)	0 (0.5)	0 (0.2)	0 (0.4)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 2.13 | Achievement Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	74 (1.4)	67 (1.9)	51 (2.2)	39 (3.3)	43 (2.5)	26 (1.4)	33 (1.9)	49 (2.2)	61 (3.3)	57 (2.5)
Northeast	73 (3.9)	62 (6.0)	52 (7.2)	35 (5.8)	41 (6.5)	27 (3.9)	38 (6.0)	48 (7.2)	65 (5.8)	59 (6.5)
Southeast	67 (2.9)	61 (3.1)	42 (2.2)	37 (7.3)	40 (6.1)	33 (2.9)	39 (3.1)	58 (2.2)	63 (7.3)	60 (6.1)
Central	79 (3.1)	70 (3.7)	63 (3.9)	*** (***)	55 (6.1)	21 (3.1)	30 (3.7)	37 (3.9)	*** (***)	45 (6.1)
West	75 (2.3)	71 (5.0)	48 (4.1)	40 (3.8)	40 (3.4)	25 (2.3)	29 (5.0)	52 (4.1)	60 (3.8)	60 (3.4)
STATES										
Alabama	55 (2.7)	53 (3.7)	37 (2.5)	28 (3.1)	29 (4.3)	45 (2.7)	47 (3.7)	63 (2.5)	72 (3.1)	71 (4.3)
Arizona	76 (2.1)	70 (2.1)	51 (3.5)	37 (3.9)	41 (3.7)	24 (2.1)	30 (2.1)	49 (3.5)	63 (3.9)	59 (3.7)
Arkansas	61 (2.7)	60 (2.5)	42 (2.2)	37 (3.6)	37 (5.3)	39 (2.7)	40 (2.5)	58 (2.2)	63 (3.6)	63 (5.3)
California	71 (1.9)	63 (2.5)	45 (3.5)	32 (4.0)	34 (3.8)	29 (1.9)	37 (2.5)	55 (3.5)	68 (4.0)	66 (3.8)
Colorado	80 (1.4)	76 (1.7)	57 (2.6)	43 (4.2)	46 (3.9)	20 (1.4)	24 (1.7)	43 (2.6)	57 (4.2)	54 (3.9)
Connecticut	83 (1.4)	71 (2.3)	56 (2.5)	36 (4.5)	45 (4.0)	17 (1.4)	29 (2.3)	44 (2.5)	64 (4.5)	55 (4.0)
Delaware	69 (1.6)	66 (3.5)	44 (2.9)	44 (6.7)	40 (5.3)	31 (1.6)	34 (3.5)	56 (2.9)	56 (6.7)	60 (5.3)
Dist. Columbia	37 (2.1)	33 (2.8)	16 (2.0)	17 (4.6)	19 (3.1)	63 (2.1)	67 (2.8)	84 (2.0)	83 (4.6)	81 (3.1)
Florida	64 (2.0)	63 (3.2)	45 (2.4)	38 (3.8)	38 (4.7)	36 (2.0)	37 (3.2)	55 (2.4)	62 (3.8)	62 (4.7)
Georgia	67 (2.4)	62 (2.9)	43 (2.4)	37 (4.1)	36 (3.7)	33 (2.4)	38 (2.9)	57 (2.4)	63 (4.1)	64 (3.7)
Hawaii	62 (1.9)	63 (2.9)	39 (2.5)	36 (4.7)	41 (3.1)	38 (1.9)	37 (2.9)	61 (2.5)	64 (4.7)	59 (3.1)
Idaho	81 (1.7)	77 (1.9)	68 (3.0)	46 (4.3)	48 (4.5)	19 (1.7)	23 (1.9)	32 (3.0)	54 (4.3)	52 (4.5)
Indiana	78 (1.8)	75 (2.4)	57 (2.9)	42 (4.1)	41 (5.9)	22 (1.8)	25 (2.4)	43 (2.9)	58 (4.1)	59 (5.9)
Iowa	88 (1.4)	85 (1.7)	74 (2.1)	64 (5.6)	63 (5.1)	12 (1.4)	15 (1.7)	26 (2.1)	36 (5.6)	37 (5.1)
Kentucky	74 (1.6) >	68 (2.2)	50 (2.5)	38 (2.7)	34 (4.5)	26 (1.6) <	32 (2.2)	50 (2.5)	62 (2.7)	66 (4.5)
Louisiana	51 (3.0)	56 (2.6)	32 (2.2)	26 (3.7)	28 (4.0)	49 (3.0)	44 (2.6)	68 (2.2)	74 (3.7)	72 (4.0)
Maine	87 (1.6)	82 (2.5)	67 (1.8)	54 (4.4)	64 (4.8)	13 (1.6)	18 (2.5)	33 (1.8)	46 (4.4)	36 (4.8)
Maryland	73 (1.8)	63 (2.3)	43 (2.3)	30 (5.0)	39 (5.0)	27 (1.8)	37 (2.3)	57 (2.3)	70 (5.0)	61 (5.0)
Massachusetts	80 (1.9)	72 (2.5)	58 (2.6)	40 (4.9)	37 (3.7)	20 (1.9)	28 (2.5)	42 (2.6)	60 (4.9)	63 (3.7)
Michigan	73 (2.2)	70 (2.6)	53 (2.6)	43 (4.4)	44 (5.0)	27 (2.2)	30 (2.6)	47 (2.6)	57 (4.4)	56 (5.0)
Minnesota	86 (1.2)	83 (2.2)	67 (3.0)	52 (8.1)	63 (4.3)	14 (1.2)	17 (2.2)	33 (3.0)	48 (8.1)	37 (4.3)
Mississippi	48 (2.2)	51 (3.1)	30 (2.3)	24 (2.2)	23 (3.7)	52 (2.2)	49 (3.1)	70 (2.3)	76 (2.2)	77 (3.7)
Missouri	78 (1.7)	75 (2.0)	60 (2.5)	47 (3.6)	48 (4.7)	22 (1.7)	25 (2.0)	40 (2.5)	53 (3.6)	52 (4.7)
Nebraska	85 (1.5)	79 (2.8)	66 (2.8)	44 (6.2)	55 (5.3)	15 (1.5)	21 (2.8)	34 (2.8)	56 (6.2)	45 (5.3)
New Hampshire	86 (1.3)	82 (2.0)	66 (1.5)	58 (5.2)	60 (4.0)	14 (1.3)	18 (2.0)	34 (1.5)	42 (5.2)	40 (4.0)
New Jersey	78 (2.6)	73 (3.3)	56 (3.3)	47 (4.7)	45 (4.9)	22 (2.6)	27 (3.3)	44 (3.3)	53 (4.7)	55 (4.9)
New Mexico	71 (2.0)	62 (2.6)	41 (2.1)	35 (4.1)	36 (3.5)	29 (2.0)	38 (2.6)	59 (2.1)	65 (4.1)	64 (3.5)
New York	75 (2.0)	70 (3.9)	53 (3.7)	36 (5.4)	34 (5.1)	25 (2.0)	30 (3.9)	47 (3.7)	64 (5.4)	66 (5.1)
North Carolina	68 (1.8)	62 ([illegible].9)	39 (2.2)	32 (3.4)	33 (4.7)	32 (1.8)	38 (2.9)	61 (2.2)	68 (3.4)	67 (4.7)
North Dakota	88 (1.0)	86 (2.6)	69 (3.1)	54 (8.7)	73 (4.5)	12 (1.0)	14 (2.6)	31 (3.1)	46 (8.7)	27 (4.5)
Ohio	75 (1.9)	71 (2.6)	57 (3.4)	35 (3.8)	47 (7.7)	25 (1.9)	29 (2.6)	43 (3.4)	65 (3.8)	53 (7.7)
Oklahoma	76 (2.2)	71 (2.8)	53 (3.6)	50 (4.7)	45 (5.4)	24 (2.2)	29 (2.8)	47 (3.6)	50 (4.7)	55 (5.4)
Pennsylvania	78 (1.7)	73 (2.8)	59 (2.1)	44 (4.6)	44 (5.2)	22 (1.7)	27 (2.8)	41 (2.1)	56 (4.6)	56 (5.2)
Rhode Island	75 (1.8)	72 (3.3)	51 (2.8)	35 (3.7)	30 (4.2)	25 (1.8)	28 (3.3)	49 (2.8)	65 (3.7)	70 (4.2)
South Carolina	65 (2.1)	67 (2.5)	39 (2.4)	39 (3.5)	39 (4.2)	35 (2.1)	33 (2.5)	61 (2.4)	61 (3.5)	61 (4.2)
Tennessee	63 (2.3)	63 (2.6)	44 (2.6)	36 (3.6)	35 (5.6)	37 (2.3)	37 (2.6)	56 (2.6)	64 (3.6)	65 (5.6)
Texas	75 (2.2)	69 (2.2)	47 (2.8)	40 (2.8)	35 (2.9)	25 (2.2)	31 (2.2)	53 (2.8)	60 (2.8)	65 (2.9)
Utah	79 (1.6)	79 (1.8)	55 (3.4)	48 (6.0)	50 (5.4)	21 (1.6)	21 (1.8)	45 (3.4)	52 (6.0)	50 (5.4)
Virginia	78 (1.7)	69 (2.8)	45 (2.7)	40 (4.6)	45 (4.5)	22 (1.7)	31 (2.8)	55 (2.7)	60 (4.6)	55 (4.5)
West Virginia	68 (2.2)	68 (2.6)	44 (2.1)	32 (2.8)	28 (4.0)	32 (2.2)	32 (2.6)	56 (2.1)	68 (2.8)	72 (4.0)
Wisconsin	84 (2.1)	83 (1.9)	69 (2.9)	49 (5.9)	51 (5.7)	16 (2.1)	17 (1.9)	31 (2.9)	51 (5.9)	49 (5.7)
Wyoming	80 (1.2)	78 (2.9)	65 (1.9)	53 (5.8)	55 (3.8)	20 (1.2)	22 (2.9)	35 (1.9)	47 (5.8)	45 (3.8)
TERRITORIES										
Guam	43 (2.7)	41 (3.6)	24 (2.4)	17 (3.4)	19 (2.6)	57 (2.7)	59 (3.6)	76 (2.4)	83 (3.4)	81 (2.6)
Virgin Islands	15 (1.7)	22 (4.3)	11 (1.6)	11 (2.4)	10 (1.9)	85 (1.7)	78 (4.3)	89 (1.6)	89 (2.4)	90 (1.9)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One.

TABLE 2.13 | Achievement Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Percentage of Students At or Above Advanced					Percentage of Students At or Above Proficient				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	4 (0.9)	3 (0.9)	0 (0.4)	0 (0.1)	0 (0.2)	30 (2.0)	20 (2.6)	12 (1.4)	4 (1.4)	7 (2.1)
Northeast	5 (1.6)	2 (2.4)	1 (0.7)	*** (***)	*** (***)	38 (4.2)	21 (7.3)	14 (2.9)	*** (***)	*** (***)
Southeast	4 (1.2)	1 (1.1)	1 (1.1)	0 (0.0)	0 (0.0)	30 (4.5)	16 (3.4)	7 (2.4)	2 (1.6)	4 (2.2)
Central	3 (1.7)	3 (2.0)	0 (0.0)	*** (***)	*** (***)	24 (3.4)	23 (5.0)	17 (3.7)	*** (***)	*** (***)
West	4 (1.2)	5 (1.9)	0 (0.3)	0 (0.4)	0 (0.0)	29 (3.7)	20 (3.7)	8 (2.4)	6 (3.0)	7 (3.4)
STATES										
Alabama	3 (0.6)	1 (0.4)	0 (0.3)	0 (0.3)	0 (0.0)	20 (1.7)	13 (1.5)	7 (1.2)	3 (1.5)	5 (2.0)
Arizona	3 (0.8)	2 (0.7)	0 (0.4)	0 (0.0)	0 (0.5)	26 (2.2)	18 (2.1)	8 (1.3)	4 (1.7)	6 (1.8)
Arkansas	2 (0.7)	1 (0.7)	0 (0.2)	0 (0.3)	0 (0.2)	23 (1.7)	16 (1.8)	6 (1.2)	3 (1.0)	4 (1.5)
California	4 (0.9)	1 (0.7)	0 (0.2)	0 (0.4)	1 (0.5)	27 (2.2)	17 (2.1)	6 (1.3)	5 (1.3)	7 (1.3)
Colorado	4 (0.8)	2 (0.7)	1 (0.4)	0 (0.4)	0 (0.0)	31 (1.7)	22 (1.8)	11 (1.9)	5 (1.8)	8 (3.0)
Connecticut	7 (0.7)	2 (0.8)	1 (0.5)	0 (0.0)	0 (0.3)	40 (1.5)	23 (2.3)	12 (1.5)	3 (1.6)	9 (2.3)
Delaware	5 (1.2)	1 (0.7)	1 (0.3)	0 (0.1)	0 (0.0)	32 (2.1)	18 (2.4)	9 (1.0)	3 (1.3)	6 (2.1)
Dist. Columbia	2 (0.4)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.0)	8 (1.5)	3 (1.4)	1 (0.6)	0 (0.9)	2 (1.0)
Florida	3 (0.8)	1 (0.8)	1 (0.4)	0 (0.0)	1 (0.8)	24 (1.8)	17 (1.7)	8 (1.1)	4 (1.9)	7 (1.8)
Georgia	5 (1.3)	3 (0.7)	1 (0.5)	0 (0.3)	0 (0.7)	29 (2.6)	20 (1.8)	9 (1.1)	5 (1.5)	9 (2.4)
Hawaii	4 (0.7)	2 (0.8)	1 (0.4)	1 (1.5)	0 (0.1)	23 (1.6)	17 (2.6)	7 (1.1)	7 (2.6)	7 (1.6)
Idaho	3 (0.6)	1 (0.5)	1 (0.4)	0 (0.1)	0 (0.6)	31 (2.6)	24 (2.5)	13 (2.2)	8 (2.8)	10 (3.3)
Indiana	6 (1.2)	3 (1.1)	1 (0.3)	1 (0.9)	0 (0.8)	31 (2.4)	24 (2.0)	12 (1.8)	9 (2.2)	6 (2.5)
Iowa	6 (1.0)	4 (1.3)	1 (0.5)	1 (1.1)	2 (1.6)	39 (2.4)	34 (2.7)	20 (2.2)	11 (3.9)	19 (3.7)
Kentucky	3 (0.8)	2 (0.8)	1 (0.3)	0 (0.2)	1 (1.1)	23 (2.1)	22 (2.6)	9 (1.1)	4 (1.0)	5 (1.8)
Louisiana	2 (0.6)	0 (0.3)	0 (0.1)	0 (0.1)	1 (0.8)	13 (1.9)	10 (1.8)	4 (1.1)	2 (1.0)	4 (1.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	6 (1.2)	1 (0.8)	0 (0.3)	1 (0.8)	1 (0.4)	32 (1.9)	17 (2.1)	8 (1.2)	8 (2.1)	8 (1.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	5 (1.0)	2 (0.8)	0 (0.3)	0 (0.0)	0 (0.5)	30 (2.0)	20 (2.2)	10 (1.6)	6 (2.2)	11 (2.8)
Minnesota	6 (0.7)	3 (1.1)	1 (0.4)	0 (0.0)	1 (1.0)	39 (1.8)	33 (2.7)	15 (1.8)	9 (3.7)	14 (3.8)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	6 (1.3)	3 (1.4)	1 (0.6)	0 (0.0)	1 (1.6)	41 (2.2)	29 (2.7)	19 (2.1)	7 (3.1)	16 (3.8)
New Hampshire	6 (1.0)	2 (0.7)	1 (0.4)	0 (0.3)	0 (0.4)	36 (1.7)	24 (2.8)	14 (1.6)	7 (3.1)	11 (3.3)
New Jersey	7 (0.9)	3 (1.3)	1 (0.6)	1 (0.4)	1 (0.7)	38 (1.9)	22 (2.4)	14 (1.8)	7 (2.9)	9 (2.6)
New Mexico	3 (0.8)	1 (0.5)	0 (0.2)	0 (0.0)	0 (0.0)	26 (2.3)	14 (1.9)	4 (1.2)	4 (1.7)	1 (1.1)
New York	5 (0.8)	4 (1.0)	1 (0.5)	0 (0.0)	1 (1.3)	30 (2.0)	19 (2.7)	9 (1.5)	4 (1.8)	10 (2.4)
North Carolina	2 (1.0)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.3)	21 (1.8)	11 (1.6)	6 (0.9)	3 (1.1)	2 (1.5)
North Dakota	6 (1.2)	3 (1.0)	2 (1.5)	0 (0.0)	1 (1.0)	43 (2.5)	35 (4.3)	23 (3.6)	9 (5.6)	13 (4.4)
Ohio	4 (0.8)	2 (0.8)	1 (0.4)	0 (0.2)	0 (0.0)	29 (2.4)	20 (1.8)	12 (1.2)	6 (1.7)	3 (1.7)
Oklahoma	3 (0.9)	1 (0.5)	0 (0.3)	0 (1.0)	1 (1.2)	27 (2.3)	16 (1.9)	8 (1.2)	6 (2.3)	7 (3.4)
Pennsylvania	6 (0.9)	1 (0.7)	0 (0.2)	0 (0.0)	0 (0.0)	37 (2.5)	21 (2.2)	11 (1.6)	4 (2.1)	8 (2.5)
Rhode Island	4 (0.8)	1 (0.5)	1 (0.3)	0 (0.0)	0 (0.1)	30 (1.7)	20 (3.1)	9 (1.5)	6 (1.9)	5 (1.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	4 (1.0)	2 (0.7)	0 (0.2)	0 (0.3)	1 (0.6)	29 (1.8)	19 (2.6)	8 (1.3)	4 (1.1)	6 (2.3)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	9 (1.5)	1 (0.7)	1 (0.4)	0 (0.4)	1 (0.9)	36 (2.6)	19 (2.5)	8 (1.1)	4 (1.5)	9 (1.7)
West Virginia	3 (0.7)	2 (0.8)	0 (0.2)	0 (0.0)	0 (2.1)	24 (2.0)	16 (2.0)	6 (1.1)	3 (1.0)	4 (2.5)
Wisconsin	6 (0.9)	3 (1.0)	2 (0.7)	0 (0.3)	1 (0.7)	41 (2.5)	28 (2.9)	22 (1.8)	8 (2.4)	12 (2.7)
Wyoming	3 (0.7)	2 (0.8)	1 (0.4)	0 (0.0)	0 (0.8)	34 (1.5)	24 (2.0)	13 (1.4)	5 (2.7)	6 (2.0)
TERRITORIES										
Guam	1 (0.6)	1 (0.6)	0 (0.1)	1 (0.0)	0 (0.3)	8 (1.4)	10 (3.0)	4 (1.1)	1 (0.9)	3 (1.1)
Virgin Islands	0 (0.2)	1 (0.8)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.9)	2 (1.4)	1 (0.4)	0 (0.2)	0 (0.1)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One. (xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.13 | Achievement Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Percentage of Students At or Above Basic					Percentage of Students Below Basic				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	71 (1.8)	64 (2.2)	49 (2.1)	32 (3.8)	34 (3.7)	29 (1.8)	36 (2.2)	51 (2.1)	68 (3.8)	66 (3.7)
Northeast	81 (3.8)	64 (4.6)	54 (6.4)	*** (***)	*** (***)	19 (3.8)	36 (4.6)	47 (6.4)	*** (***)	*** (***)
Southeast	68 (3.8)	59 (5.7)	38 (5.7)	26 (6.2)	24 (7.3)	32 (3.8)	41 (5.7)	62 (5.7)	74 (6.2)	76 (7.3)
Central	69 (3.7)	66 (4.7)	59 (4.1)	*** (***)	*** (***)	31 (3.7)	34 (4.7)	41 (4.1)	*** (***)	*** (***)
West	68 (2.9)	68 (3.5)	45 (3.0)	38 (5.1)	38 (5.4)	32 (2.9)	32 (3.5)	55 (3.0)	62 (5.1)	62 (5.4)
STATES										
Alabama	58 (2.4)	57 (3.3)	39 (2.3)	30 (3.5)	32 (4.3)	42 (2.4)	43 (3.3)	61 (2.3)	70 (3.5)	68 (4.3)
Arizona	69 (2.4)	63 (2.8)	43 (2.9)	32 (2.9)	34 (3.1)	31 (2.4)	37 (2.8)	57 (2.9)	68 (2.9)	66 (3.1)
Arkansas	64 (1.6)	65 (3.4)	43 (1.9)	35 (2.8)	26 (4.1)	36 (1.6)	35 (3.4)	57 (1.9)	65 (2.8)	74 (4.1)
California	68 (2.4)	58 (3.2)	41 (2.6)	30 (3.7)	29 (2.9)	32 (2.4)	42 (3.2)	59 (2.6)	70 (3.7)	71 (2.9)
Colorado	76 (1.6)	70 (1.6)	48 (2.2)	35 (4.1)	44 (4.2)	24 (1.6)	30 (1.6)	52 (2.2)	65 (4.1)	56 (4.2)
Connecticut	79 (1.2)	68 (3.1)	52 (2.8)	33 (4.4)	43 (5.1)	21 (1.2)	32 (3.1)	48 (2.8)	67 (4.4)	57 (5.1)
Delaware	69 (1.7)	60 (4.0)	43 (2.6)	33 (4.4)	37 (5.4)	31 (1.7)	40 (4.0)	57 (2.6)	67 (4.4)	63 (5.4)
Dist. Columbia	28 (2.3)	26 (3.3)	15 (1.6)	15 (3.2)	11 (2.5)	72 (2.3)	74 (3.3)	85 (1.6)	85 (3.2)	89 (2.5)
Florida	62 (2.2)	60 (3.1)	37 (2.0)	31 (3.4)	33 (3.2)	38 (2.2)	40 (3.1)	63 (2.0)	69 (3.4)	67 (3.2)
Georgia	68 (2.4)	65 (2.7)	41 (2.2)	36 (3.5)	32 (4.2)	32 (2.4)	35 (2.7)	59 (2.2)	64 (3.5)	68 (4.2)
Hawaii	57 (1.8)	56 (2.9)	34 (1.7)	30 (5.2)	30 (2.6)	43 (1.8)	44 (2.9)	66 (1.7)	70 (5.2)	70 (2.6)
Idaho	79 (1.8)	77 (2.1)	58 (2.6)	43 (4.3)	48 (6.1)	21 (1.8)	23 (2.1)	42 (2.6)	57 (4.3)	52 (6.1)
Indiana	75 (2.2)	70 (2.3)	55 (2.1)	40 (4.7)	38 (5.0)	25 (2.2)	30 (2.3)	45 (2.1)	60 (4.7)	62 (5.0)
Iowa	82 (1.4)	82 (1.8)	69 (2.4)	53 (5.2)	62 (4.1)	18 (1.4)	18 (1.8)	31 (2.4)	47 (5.2)	38 (4.1)
Kentucky	65 (2.4)	66 (2.4)	46 (2.2)	30 (2.5)	29 (4.5)	35 (2.4)	34 (2.4)	54 (2.2)	70 (2.5)	71 (4.5)
Louisiana	48 (3.1)	50 (2.7)	32 (2.5)	24 (2.9)	27 (3.0)	52 (3.1)	50 (2.7)	68 (2.5)	76 (2.9)	73 (3.0)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	68 (1.9)	60 (2.8)	41 (2.3)	37 (4.2)	40 (4.5)	32 (1.9)	40 (2.8)	59 (2.3)	63 (4.2)	60 (4.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	71 (1.7)	67 (2.4)	51 (2.5)	39 (4.9)	41 (3.4)	29 (1.7)	33 (2.4)	49 (2.5)	61 (4.9)	59 (3.4)
Minnesota	82 (2.0)	83 (1.7)	62 (2.3)	46 (5.7)	56 (4.3)	18 (2.0)	17 (1.7)	38 (2.3)	54 (5.7)	44 (4.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	84 (1.5)	79 (2.3)	65 (2.9)	49 (7.2)	51 (5.2)	16 (1.5)	21 (2.3)	35 (2.9)	51 (7.2)	49 (5.2)
New Hampshire	82 (1.6)	77 (3.2)	58 (2.8)	50 (5.8)	45 (7.4)	18 (1.6)	23 (3.2)	42 (2.8)	50 (5.8)	55 (7.4)
New Jersey	76 (2.0)	68 (3.0)	53 (2.5)	42 (4.9)	43 (4.4)	24 (2.0)	32 (3.0)	47 (2.5)	58 (4.9)	57 (4.4)
New Mexico	70 (2.1)	60 (2.8)	40 (2.6)	28 (2.7)	23 (3.2)	30 (2.1)	40 (2.8)	60 (2.6)	72 (2.7)	77 (3.2)
New York	69 (1.4)	62 (3.1)	49 (2.5)	35 (5.2)	35 (4.3)	31 (1.4)	38 (3.1)	51 (2.5)	65 (5.2)	65 (4.3)
North Carolina	60 (2.5)	55 (2.5)	34 (1.9)	26 (2.8)	21 (3.0)	40 (2.5)	45 (2.5)	66 (1.9)	74 (2.8)	79 (3.0)
North Dakota	88 (1.7)	84 (3.6)	73 (3.2)	55 (5.9)	63 (6.6)	12 (1.7)	16 (3.6)	27 (3.2)	45 (5.9)	37 (6.6)
Ohio	71 (1.5)	69 (2.5)	51 (2.2)	37 (4.8)	28 (5.0)	29 (1.5)	31 (2.5)	49 (2.2)	63 (4.8)	72 (5.0)
Oklahoma	71 (1.9)	64 (3.5)	47 (2.0)	43 (4.4)	40 (5.5)	29 (1.9)	36 (3.5)	53 (2.0)	57 (4.4)	60 (5.5)
Pennsylvania	77 (2.4)	71 (2.7)	51 (2.4)	42 (4.9)	40 (6.0)	23 (2.4)	29 (2.7)	49 (2.4)	58 (4.9)	60 (6.0)
Rhode Island	70 (1.4)	64 (2.8)	46 (1.9)	30 (3.3)	26 (3.4)	30 (1.4)	36 (2.8)	54 (1.9)	70 (3.3)	74 (3.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	70 (1.9)	64 (3.0)	41 (2.3)	34 (2.7)	30 (3.8)	30 (1.9)	36 (3.0)	59 (2.3)	66 (2.7)	70 (3.8)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	74 (1.9)	64 (2.6)	44 (2.2)	32 (3.3)	37 (4.8)	26 (1.9)	36 (2.6)	56 (2.2)	68 (3.3)	63 (4.8)
West Virginia	67 (2.5)	58 (2.9)	43 (1.9)	29 (3.1)	27 (4.4)	33 (2.5)	42 (2.9)	57 (1.9)	71 (3.1)	73 (4.4)
Wisconsin	81 (2.0)	78 (2.4)	68 (2.3)	46 (5.4)	48 (5.5)	19 (2.0)	22 (2.4)	32 (2.3)	54 (5.4)	52 (5.5)
Wyoming	80 (1.7)	79 (2.0)	60 (3.1)	50 (5.2)	38 (4.5)	20 (1.7)	21 (2.0)	40 (3.1)	50 (5.2)	62 (4.5)
TERRITORIES										
Guam	38 (1.9)	42 (3.9)	22 (2.0)	14 (3.5)	18 (1.9)	62 (1.9)	58 (3.9)	78 (2.0)	86 (3.5)	82 (1.9)
Virgin Islands	12 (1.8)	16 (3.9)	12 (1.7)	6 (1.6)	8 (2.1)	88 (1.8)	84 (3.9)	88 (1.7)	94 (1.6)	92 (2.1)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One. (xxx) Did not participate in the 1990 Trial State Assessment

TABLE 2.14 Average Mathematics Proficiency and Achievement Levels by Type of School, Grades 4, 8, and 12

				Percentage of Students At or Above			
	Assessment Years	**Percentage of Students**	**Average Proficiency**	**Advanced**	**Proficient**	**Basic**	**Percentage Below Basic**
Grade 4							
Public Schools	**1992**	87 (1.0)	217 (0.8)>	2 (0.3)	18 (1.1)>	59 (1.1)>	**41 (1.1)<**
	1990	89 (1.4)	212 (1.1)	1 (0.4)	12 (1.3)	52 (1.6)	**48 (1.6)**
Catholic Schools	**1992**	8 (0.7)	227 (1.2)>	2 (0.4)	22 (1.6)	72 (2.4)	**28 (2.4)**
	1990	7 (1.2)	219 (3.0)	2 (0.8)	16 (2.6)	63 (4.6)	**37 (4.6)**
Other Private Schools	**1992**	4 (0.9)	226 (3.7)	4 (1.3)	22 (3.4)	70 (5.7)	**30 (5.7)**
	1990	4 (0.9)	232 (3.6)!	4 (2.6)	30 (4.9)	78 (5.6)	**22 (5.6)**
Grade 8							
Public Schools	**1992**	89 (0.9)	266 (1.0)>	3 (0.5)	23 (1.1)>	61 (1.2)	**39 (1.2)**
	1990	92 (1.3)	262 (1.4)	2 (0.4)	19 (1.2)	57 (1.4)	**43 (1.4)**
Catholic Schools	**1992**	6 (0.7)	277 (2.1)	4 (0.9)	32 (2.4)>	75 (2.6)	**25 (2.6)**
	1990	5 (1.0)	271 (3.5)	2 (0.9)	21 (3.1)	70 (5.1)	**30 (5.1)**
Other Private Schools	**1992**	5 (0.7)	284 (4.1)>	8 (1.9)>	43 (5.3)>	77 (3.5)	**23 (3.5)**
	1990	3 (0.8)	272 (3.1)!	2 (1.1)	24 (3.5)	71 (4.3)	**29 (4.3)**
Grade 12							
Public Schools	**1992**	87 (1.2)	297 (1.0)	2 (0.3)	14 (1.0)	61 (1.3)	**39 (1.3)**
	1990	91 (2.0)	294 (1.2)	2 (0.3)	13 (1.1)	58 (1.7)	**42 (1.7)**
Catholic Schools	**1992**	8 (1.3)	310 (2.5)	2 (0.6)	22 (2.6)	79 (2.9)	**21 (2.9)**
	1990	6 (1.6)	301 (4.6)!	1 (0.7)	15 (3.4)	68 (5.7)	**32 (5.7)**
Other Private Schools	**1992**	4 (1.0)	319 (4.3)!>	6 (1.5)	36 (5.5)>	84 (4.2)>	**16 (4.2)<**
	1990	4 (1.4)	298 (5.1)!	2 (1.8)	10 (4.8)	62 (7.9)	**38 (7.9)**

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. ! Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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National Performance at Grade 12 by High-School Program After High School

TABLE 2.15 Average Mathematics Proficiency by Type of High-School Program and Plans After High-School Graduation, Grade 12

Type of High-School Program	Assessment Years	Percent of Students	Average Proficiency
Academic	**1992**	61 (1.5)	315 (0.8)>
	1990	60 (2.1)	308 (1.2)
General	**1992**	35 (1.3)	285 (1.1)>
	1990	32 (2.3)	277 (1.3)
Vocational/Technical	**1992**	5 (0.4)<	278 (2.5)>
	1990	8 (0.9)	269 (2.3)

Plans after High School	Assessment Year	Percent of Students	Average Proficiency
Working Full-time	**1992**	8 (0.4)	278 (1.9)
Voc/Tech/Business School	**1992**	9 (0.6)	278 (1.8)
2-Year College	**1992**	18 (1.0)	286 (1.4)
4-Year College or Service Academy	**1992**	56 (1.4)	313 (0.9)
Military Service	**1992**	5 (0.3)	285 (2.0)
Other	**1992**	3 (0.3)	277 (3.2)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 2.16 Average Mathematics Proficiency and Achievement Levels for the Top One-Third of the Schools and the Bottom One-Third of the Schools, Grades 4, 8, and 12

	Assessment Years	Percentage of Students	Average Proficiency	Percentage of Students At or Above			Percentage Below Basic
				Advanced	Proficient	Basic	
Grades 4							
Top One-Third Schools	**1992**	34 (2.8)	237 (0.8)>	5 (0.8)	34 (1.5)>	84 (1.0)>	**16 (1.0)>**
	1990	34 (3.9)	229 (1.4)	3 (1.1)	25 (2.6)	76 (1.8)	**24 (1.8)**
Bottom One-Third Schools	**1992**	29 (2.1)	196 (1.2)	0 (0.1)	4 (0.5)	32 (1.5)	**68 (1.5)**
	1990	30 (3.4)	194 (1.7)	0 (0.2)	4 (0.9)	29 (2.5)	**71 (2.5)**
Grades 8							
Top One-Third Schools	**1992**	29 (3.1)	289 (1.3)>	8 (1.1)	45 (2.0)>	86 (1.5)>	**14 (1.5)<**
	1990	30 (4.4)	280 (1.2)	5 (1.0)	35 (2.0)	78 (1.7)	**22 (1.7)**
Bottom One-Third Schools	**1992**	32 (1.8)	245 (0.9)	0 (0.3)	8 (0.8)	37 (1.4)	**63 (1.4)**
	1990	34 (3.9)	244 (1.8)	0 (0.3)	8 (1.3)	36 (2.0)	**64 (2.0)**
Grades 12							
Top One-Third Schools	**1992**	35 (3.1)	316 (1.1)>	4 (0.7)	29 (1.5)	82 (1.3)>	**18 (1.3)<**
	1990	34 (5.0)	310 (1.2)	4 (0.9)	23 (2.3)	77 (1.8)	**23 (1.8)**
Bottom One-Third Schools	**1992**	27 (2.2)	279 (1.0)>	0 (0.2)	5 (0.9)	40 (1.6)	**60 (1.6)**
	1990	26 (3.3)	274 (1.5)	0 (0.2)	3 (0.9)	35 (2.7)	**65 (2.7)**

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

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TABLE 2.17 Percentage of Students Within Selected Demographic Subgroups in the Top One-third of the Schools and the Bottom One-Third of the Schools, Grades 4, 8, and 12

	Assessment Years	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
		White	Black	Hispanic	Asian/ Pacific Islander	American Indian	Advan. Urban	Disadvan. Urban	Extreme Rural	Other
Grade 4										
Top One-Third	1992	43 (3.6)	7 (1.6)	16 (2.4)	45 (7.8)	22 (4.9)	78 (5.9)	0 (0.0)	35 (10.5)	31 (2.9)
	1990	42 (5.0)	4 (1.4)	24 (4.5)	48(11.1)	29 (5.6)	69(10.8)	6 (5.0)	40 (18.0)	32 (4.9)
Bottom One-Third	1992	17 (2.2)	70 (4.4)	57 (3.9)	21 (3.5)	38 (6.2)	3 (2.1)	83 (7.9)	33 (10.0)	26 (2.5)
	1990	19 (3.7)	70 (5.0)	46 (5.3)	16 (6.0)	35 (7.2)	3 (2.9)	66 (7.3)	34 (17.9)	29 (4.1)
Grade 8										
Top One-Third	1992	36 (3.8)	8 (1.9)	14 (2.5)	44 (8.1)	15 (4.8)	57(10.4)	0 (0.0)	19 (11.0)	30 (4.0)
	1990	36 (5.3)	9 (2.7)	14 (4.3)	34(11.0)	21(15.1)	79(13.5)	8 (8.5)	6 (5.1)	28 (5.1)
Bottom One-Third	1992	20 (1.9)	72 (3.3)	58 (3.3)	22 (5.7)	43 (5.9)	1(0.6)	88 (5.1)	45 (13.3)	29 (3.0)
	1990	23 (4.0)	72 (5.6)	46 (9.1)	34(13.5)	62(33.1)	2(2.1)	64(11.8)	56 (19.8)	32 (4.8)
Grade 12										
Top One-Third	1992	41 (3.7)	12 (2.2)	19 (2.7)	45 (5.9)	33 (14.8)	81(7.6)	8 (4.3)	16 (6.1)	34 (3.7)
	1990	41 (6.2)	12 (3.2)	14 (3.8)	24(10.5)	32 (9.3)	70(13.6)	0 (0.0)	48(16.0)	32 (5.8)
Bottom One-Third	1992	17 (2.4)	59 (4.5)	52 (6.5)	19 (5.1)	30 (9.3)	1(0.9)	72 (7.3)	36 (6.3)	23 (2.7)
	1990	16 (3.2)	67 (6.0)	48 (9.5)	24(13.3)	21(10.1)	22(12.2)	74(19.1)	30(15.3)	19 (3.9)

(Table 2.17 continued on the next page)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent confidence for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

TABLE 2.17 Percentage of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools and the Bottom One-Third of the Schools, Grades 4, 8, and 12 (continued)

	Assessment Years	Percentage of Students by Region				Percentage of Students by Parents' Education			
		Northeast	Southeast	Central	West	Did Not Finish H. S.	Grad. H.S.	Some Ed. After H. S.	Grad. College
Grade 4									
Top One-Third	**1992**	44 (8.7)	17 (3.5)	47 (5.9)	30 (4.8)	16 (4.0)	26 (3.3)	30 (3.4)	45 (3.1)
	1990	38 (9.0)	15 (7.1)	42 (7.2)	40 (8.5)	16 (4.6)	30 (4.3)	34 (5.5)	43 (4.4)
Bottom One-Third	**1992**	25 (3.3)	53 (6.3)	13 (3.3)	28 (4.4)	49 (4.4)	34 (3.3)	29 (2.6)	22 (1.9)
	1990	31 (7.1)	49(11.0)	14 (4.4)	27 (5.6)	49 (6.9)	33 (4.1)	26 (3.4)	22 (2.5)
Grade 8									
Top One-Third	**1992**	34 (8.2)	14 (3.9)	44 (6.6)	27 (6.3)	10 (2.9)	21 (3.4)	27 (3.7)	41 (3.5)
	1990	50 (9.8)	15 (4.6)	40(11.5)	20 (8.5)	11 (2.5)	20 (4.6)	31 (5.2)	42 (5.2)
Bottom One-Third	**1992**	30 (4.0)	53 (4.3)	16 (2.4)	31 (4.0)	60 (3.3)	38 (2.5)	30 (2.1)	21 (1.7)
	1990	24 (9.8)	60 (9.1)	20 (4.2)	30 (7.2)	55 (6.6)	40 (5.2)	32 (4.0)	24 (3.2)
Grade 12									
Top One-Third	**1992**	42 (5.9)	18 (5.2)	41 (6.9)	37 (6.3)	15 (3.0)	21 (2.8)	30 (3.5)	48 (3.7)
	1990	58(10.9)	11 (6.2)	40(12.5)	25 (9.4)	13 (2.3)	31 (5.7)	32 (5.6)	43 (6.0)
Bottom One-Third	**1992**	19 (3.3)	45 (6.5)	9 (2.8)	35 (4.2)	51 (5.0)	34 (2.9)	27 (3.0)	18 (1.9)
	1990	11 (5.5)	63(10.3)	13 (5.7)	25 (6.7)	56 (6.6)	32 (4.2)	25 (4.0)	16 (2.6)

TABLE 2.18 | Average Mathematics Proficiency and Achievement Levels for the Top One-Third of the Schools

PUBLIC SCHOOLS	Grade 4 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	44 (2.9)	234 (0.9)	4 (0.7)	30 (1.8)	80 (1.1)	20 (1.1)
Northeast	59 (6.7)	236 (2.1)	5 (1.4)	35 (4.1)	81 (2.1)	19 (2.1)
Southeast	21 (5.2)	234 (2.8)!	5 (1.4)!	30 (4.0)!	80 (4.0)!	20 (4.0)!
Central	56 (8.3)	233 (1.2)	3 (1.2)	29 (2.0)	80 (2.4)	20 (2.4)
West	43 (4.4)	232 (1.9)	4 (1.6)	28 (3.7)	79 (2.1)	21 (2.1)
STATES						
Alabama	34 (5.2)	225 (1.8)	2 (0.6)	22 (2.6)	69 (2.7)	31 (2.7)
Arizona	35 (2.9)	230 (1.0)	3 (0.7)	25 (1.3)	77 (1.9)	23 (1.9)
Arkansas	33 (3.7)	222 (1.5)	1 (0.6)	17 (2.1)	66 (2.0)	34 (2.0)
California	34 (4.8)	228 (1.5)	4 (1.3)	25 (2.1)	71 (2.1)	29 (2.1)
Colorado	35 (4.0)	234 (1.0)	5 (0.9)	31 (1.3)	79 (1.6)	21 (1.6)
Connecticut	36 (3.9)	242 (1.1)	7 (1.5)	42 (2.6)	88 (1.2)	12 (1.2)
Delaware	31 (0.2)	228 (1.9)	4 (1.0)	27 (1.4)	69 (2.8)	31 (2.8)
Dist. Columbia	30 (0.3)	211 (0.9)	3 (0.8)	16 (0.9)	47 (1.8)	53 (1.8)
Florida	34 (4.4)	229 (1.3)	3 (0.9)	26 (2.4)	75 (2.0)	25 (2.0)
Georgia	32 (4.2)	234 (1.2)	3 (0.9)	31 (2.1)	80 (2.0)	20 (2.0)
Hawaii	32 (4.1)	229 (1.1)	3 (0.8)	28 (2.0)	73 (1.5)	27 (1.5)
Idaho	33 (4.4)	231 (1.1)	2 (0.6)	25 (1.7)	79 (1.8)	21 (1.8)
Indiana	34 (4.5)	232 (0.7)	3 (0.7)	28 (2.0)	78 (1.3)	22 (1.3)
Iowa	34 (4.7)	240 (0.8)	6 (1.0)	40 (2.0)	86 (1.3)	14 (1.3)
Kentucky	35 (3.5)	226 (1.0)	4 (1.2)	23 (2.1)	70 (1.7)	30 (1.7)
Louisiana	36 (4.1)	221 (1.4)	1 (0.6)	16 (1.6)	65 (2.6)	35 (2.6)
Maine	31 (4.8)	241 (1.3)	6 (1.1)	42 (2.3)	87 (1.7)	13 (1.7)
Maryland	32 (3.5)	236 (1.3)	6 (0.7)	35 (2.1)	81 (1.7)	19 (1.7)
Massachusetts	37 (4.4)	241 (1.2)	6 (1.1)	40 (2.2)	88 (1.1)	12 (1.1)
Michigan	34 (5.2)	236 (1.4)	4 (1.3)	35 (2.4)	83 (1.7)	17 (1.7)
Minnesota	31 (4.1)	239 (0.9)	6 (1.2)	39 (2.0)	85 (1.7)	15 (1.7)
Mississippi	31 (2.9)	218 (1.1)	1 (0.3)	14 (1.7)	59 (2.1)	41 (2.1)
Missouri	38 (4.6)	234 (1.1)	4 (0.7)	32 (2.3)	79 (1.5)	21 (1.5)
Nebraska	34 (4.8)	238 (1.0)	6 (1.2)	37 (2.3)	84 (1.4)	16 (1.4)
New Hampshire	33 (5.0)	241 (1.4)	6 (1.2)	41 (2.6)	86 (1.8)	14 (1.8)
New Jersey	37 (4.5)	243 (1.3)	7 (1.5)	42 (2.5)	89 (1.4)	11 (1.4)
New Mexico	34 (5.2)	227 (1.5)	2 (1.0)	22 (2.6)	72 (2.0)	28 (2.0)
New York	32 (3.6)	235 (1.2)	5 (0.8)	32 (2.6)	81 (2.1)	19 (2.1)
North Carolina	34 (4.1)	227 (1.3)	3 (0.8)	23 (1.9)	71 (1.9)	29 (1.9)
North Dakota	34 (4.4)	237 (0.9)	4 (0.7)	34 (1.9)	85 (1.9)	15 (1.9)
Ohio	34 (3.9)	234 (1.1)	4 (0.9)	31 (2.3)	80 (1.8)	20 (1.8)
Oklahoma	37 (4.5)	230 (1.1)	3 (0.9)	25 (1.8)	76 (2.0)	24 (2.0)
Pennsylvania	33 (4.5)	240 (1.2)	6 (1.5)	38 (2.3)	87 (1.4)	13 (1.4)
Rhode Island	35 (4.9)	231 (1.4)	4 (1.1)	26 (2.0)	78 (1.8)	22 (1.8)
South Carolina	36 (4.2)	226 (1.1)	3 (0.8)	25 (1.8)	69 (1.6)	31 (1.6)
Tennessee	34 (4.1)	225 (1.3)	2 (0.6)	21 (1.7)	71 (2.4)	29 (2.4)
Texas	37 (4.7)	231 (1.7)	4 (1.2)	27 (2.7)	77 (2.3)	23 (2.3)
Utah	32 (4.1)	235 (0.9)	4 (0.8)	32 (1.8)	82 (1.6)	18 (1.6)
Virginia	35 (4.2)	239 (1.6)	7 (1.7)	38 (2.6)	83 (1.7)	17 (1.7)
West Virginia	35 (4.0)	225 (1.5)	3 (0.7)	22 (2.0)	70 (1.7)	30 (1.7)
Wisconsin	34 (5.0)	238 (1.2)	5 (1.0)	38 (2.2)	84 (1.6)	16 (1.6)
Wyoming	30 (4.0)	234 (0.9)	3 (0.8)	31 (2.0)	83 (1.4)	17 (1.4)
TERRITORY						
Guam	33 (0.1)	202 (1.5)	1 (0.3)	8 (1.3)	38 (2.6)	62 (2.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 2.18 | Average Mathematics Proficiency and Achievement Levels for the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	39 (4.1)	284 (1.2)	7 (1.0)	38 (1.9)	81 (1.4)	19 (1.4)
Northeast	45 (9.0)	285 (3.5)	10 (2.5)	40 (4.4)	80 (3.4)	20 (3.4)
Southeast	9 (4.4)	284 (1.6)!	5 (1.7)!	38 (4.7)!	83 (4.7)!	17 (4.7)!
Central	59 (8.2)	284 (1.5)	5 (1.1)	38 (3.2)	82 (1.7)	18 (1.7)
West	45 (9.6)	282 (2.0)!	7 (2.0)!	37 (3.3)!	79 (2.5)!	21 (2.5)!
STATES						
Alabama	32 (4.6)	269 (1.8)	3 (0.9)	24 (2.0)	65 (2.6)	35 (2.6)
Arizona	37 (4.5)	279 (1.5) >	4 (0.9)	30 (2.5)	79 (2.2)	21 (2.2)
Arkansas	32 (3.9)	270 (1.1)	2 (0.8)	21 (1.4)	67 (2.1)	33 (2.1)
California	34 (4.4)	281 (1.9) >	6 (1.8)	36 (2.1) >	78 (1.9)	22 (1.9)
Colorado	34 (4.1)	286 (1.3) >	5 (1.2)	40 (2.3)	85 (1.5) >	15 (1.5) <
Connecticut	34 (3.1)	293 (0.9) >	8 (1.5)	50 (1.5)	89 (1.3)	11 (1.3)
Delaware	29 (0.2) »	273 (1.8)	5 (0.8)	28 (2.5)	69 (1.9)	31 (1.9)
Dist. Columbia	32 (0.6) »	255 (1.8)	2 (0.7)	16 (2.7)	49 (2.1)	51 (2.1)
Florida	36 (4.1)	276 (1.4) >	3 (0.8)	30 (2.2)	74 (1.9)	26 (1.9)
Georgia	34 (4.6)	275 (1.3)	4 (0.7)	29 (1.9)	74 (1.3)	26 (1.3)
Hawaii	37 (0.3) «	270 (1.2) »	4 (0.9)	26 (1.9)	63 (1.8)	37 (1.8)
Idaho	29 (3.9)	283 (1.0) >	4 (1.1)	37 (1.9)	83 (1.3)	17 (1.3)
Indiana	34 (5.3)	283 (1.3)	6 (0.9)	37 (1.7)	80 (1.6)	20 (1.6)
Iowa	32 (4.6)	293 (1.0)	9 (1.3)	50 (2.3)	91 (1.1)	9 (1.1)
Kentucky	33 (4.7)	275 (1.4) >	4 (0.8)	28 (2.3)	71 (1.7)	29 (1.7)
Louisiana	33 (4.9)	268 (1.9) >	1 (0.5)	20 (2.2)	65 (2.5)	35 (2.5)
Maine	30 (4.6)	289 (1.6)	6 (1.1)	43 (3.1)	89 (1.9)	11 (1.9)
Maryland	32 (4.0)	286 (1.5)	8 (1.3)	43 (2.2)	81 (1.3)	19 (1.3)
Massachusetts	35 (4.3)	289 (1.5)	7 (1.4)	47 (2.2)	86 (1.5)	14 (1.5)
Michigan	35 (5.1)	285 (1.7)	6 (1.0)	40 (2.6)	84 (1.7)	16 (1.7)
Minnesota	35 (4.8)	291 (1.0) »	9 (1.4)	48 (1.5) »	87 (1.3)	13 (1.3)
Mississippi	34 (4.8)	262 (1.1)	1 (0.4)	16 (1.4)	58 (1.8)	42 (1.8)
Missouri	31 (4.6)	282 (0.8)	5 (1.0)	36 (1.7)	80 (1.3)	20 (1.3)
Nebraska	27 (4.7)	291 (1.2)	7 (1.2)	48 (2.4)	89 (1.8)	11 (1.8)
New Hampshire	29 (4.3)	287 (1.5)	7 (1.4)	43 (2.2)	86 (1.7)	14 (1.7)
New Jersey	30 (3.4)	293 (1.2) >	9 (1.5)	50 (2.1)	89 (1.3)	11 (1.3)
New Mexico	31 (4.0)	273 (1.1)	3 (0.8)	24 (2.2)	70 (2.1)	30 (2.1)
New York	30 (3.8)	288 (1.3) »	8 (1.2)	42 (2.2) »	85 (1.5) >	15 (1.5) <
North Carolina	34 (4.8)	270 (1.2) »	3 (0.7)	23 (1.8)	67 (1.5) >	33 (1.5) <
North Dakota	26 (4.0) <	293 (1.5)	6 (1.5)	51 (2.3)	90 (1.9)	10 (1.9)
Ohio	34 (5.2)	284 (1.6) >	5 (1.2)	38 (3.2)	83 (2.5)	17 (2.5)
Oklahoma	32 (4.5)	280 (1.1)	3 (0.7)	32 (2.1)	80 (1.9)	20 (1.9)
Pennsylvania	36 (4.5)	286 (1.3)	6 (1.1)	41 (2.1)	82 (1.7)	18 (1.7)
Rhode Island	31 (0.2)	280 (1.0)	4 (0.9)	32 (2.1)	77 (1.9)	23 (1.9)
South Carolina	33 (3.5)	276 (1.2)	4 (1.0)	31 (1.9)	71 (1.7)	29 (1.7)
Tennessee	33 (4.3)	272 (1.4)	3 (1.0)	25 (2.2)	69 (2.0)	31 (2.0)
Texas	36 (4.2)	282 (1.5) »	8 (1.3) >	37 (2.1) »	77 (1.4)	23 (1.4)
Utah	32 (3.9)	283 (0.9)	4 (0.8)	36 (2.0)	83 (1.5)	17 (1.5)
Virginia	33 (4.3)	285 (1.5)	7 (1.4)	40 (2.1)	81 (1.9)	19 (1.9)
West Virginia	32 (4.9)	269 (1.0)	1 (0.5)	20 (1.3)	66 (1.8)	34 (1.8)
Wisconsin	39 (5.0)	289 (1.1)	7 (1.3)	45 (2.4)	88 (1.9)	12 (1.9)
Wyoming	28 (3.1)	283 (1.4)	5 (1.0)	36 (2.3)	82 (2.3)	18 (2.3)
TERRITORIES						
Guam	13 (0.2) «	244 (3.2)	2 (0.7)	9 (1.6)	38 (5.2)	62 (5.2)
Virgin Islands	28 (0.2) «	232 (1.3)	0 (0.3)	2 (1.0)	20 (2.2)	80 (2.2)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. (xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE 2.18 | Average Mathematics Proficiency and Achievement Levels for the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	27 (4.8)	281 (1.5)	6 (1.2)	36 (2.4)	78 (1.9)	22 (1.9)
Northeast	50(11.9)	282 (3.6)!	6 (2.3)!	37 (4.0)!	80 (3.8)!	20 (3.8)!
Southeast	13 (5.9)	281 (5.6)!	8 (2.6)!	44 (7.5)!	73 (7.7)!	27 (7.7)!
Central	35(12.2)	279 (1.8)!	3 (1.2)!	29 (3.5)!	78 (2.0)!	22 (2.0)!
West	19 (8.7)	281 (2.4)!	8 (3.0)!	38 (3.7)!	77 (3.4)!	23 (3.4)!
STATES						
Alabama	33 (4.2)	268 (1.2)	2 (0.5)	20 (1.4)	66 (1.6)	34 (1.6)
Arizona	36 (3.2)	275 (1.1)	3 (0.9)	26 (1.8)	74 (1.8)	26 (1.8)
Arkansas	32 (3.7)	270 (0.9)	2 (0.5)	22 (1.7)	69 (2.1)	31 (2.1)
California	32 (4.1)	275 (1.7)	4 (0.8)	28 (2.2)	73 (2.1)	27 (2.1)
Colorado	33 (3.5)	281 (0.9)	4 (0.9)	33 (1.7)	80 (1.3)	20 (1.3)
Connecticut	32 (2.8)	289 (1.0)	9 (1.0)	45 (2.1)	85 (1.5)	15 (1.5)
Delaware	26 (0.1)	276 (2.1)	5 (1.5)	34 (1.8)	70 (2.1)	30 (2.1)
Dist. Columbia	29 (0.2)	253 (2.1)	3 (0.5)	12 (2.0)	42 (2.7)	58 (2.7)
Florida	33 (3.9)	272 (1.3)	4 (0.9)	26 (1.5)	69 (1.5)	31 (1.5)
Georgia	33 (4.0)	278 (1.7)	6 (1.3)	33 (2.3)	74 (1.9)	26 (1.9)
Hawaii	45 (0.3)	263 (1.2)	3 (0.7)	21 (1.3)	59 (1.8)	41 (1.8)
Idaho	37 (0.8)	280 (1.3)	3 (0.8)	32 (2.4)	80 (1.7)	20 (1.7)
Indiana	34 (5.2)	280 (1.3)	6 (1.5)	33 (2.0)	78 (1.6)	22 (1.6)
Iowa	29 (4.8)	290 (1.5)	8 (1.3)	44 (2.7)	88 (1.3)	12 (1.3)
Kentucky	32 (4.5)	270 (1.1)	2 (0.6)	22 (1.8)	66 (1.8)	34 (1.8)
Louisiana	33 (4.0)	262 (1.8)	2 (0.5)	15 (2.6)	58 (2.7)	42 (2.7)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	33 (4.0)	283 (1.6)	8 (1.4)	37 (2.4)	79 (1.6)	21 (1.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	32 (4.3)	282 (1.2)	6 (1.2)	34 (2.0)	79 (1.6)	21 (1.6)
Minnesota	32 (4.2)	286 (0.8)	6 (0.9)	40 (1.5)	83 (1.2)	17 (1.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	33 (3.4)	290 (1.1)	8 (1.2)	46 (2.0)	89 (1.2)	11 (1.2)
New Hampshire	31 (1.0)	286 (1.3)	7 (1.1)	39 (2.3)	85 (2.0)	15 (2.0)
New Jersey	32 (3.9)	290 (1.1)	9 (1.0)	45 (1.9)	86 (1.2)	14 (1.2)
New Mexico	36 (0.7)	271 (1.4)	3 (0.8)	23 (2.2)	69 (2.1)	31 (2.1)
New York	29 (3.5)	281 (1.2)	6 (1.0)	32 (1.5)	79 (1.7)	21 (1.7)
North Carolina	33 (4.2)	265 (1.2)	1 (0.7)	21 (1.7)	62 (1.6)	38 (1.6)
North Dakota	42 (2.9)	291 (1.3)	6 (1.3)	45 (3.0)	90 (1.3)	10 (1.3)
Ohio	33 (4.2)	278 (1.1)	4 (0.8)	30 (1.6)	77 (1.3)	23 (1.3)
Oklahoma	33 (4.0)	277 (1.2)	4 (1.1)	30 (1.7)	75 (1.5)	25 (1.5)
Pennsylvania	32 (4.8)	284 (1.5)	5 (1.2)	37 (2.4)	83 (1.4)	17 (1.4)
Rhode Island	30 (0.6)	278 (1.2)	4 (0.7)	33 (2.0)	76 (1.7)	24 (1.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	34 (4.5)	275 (1.3)	4 (0.8)	26 (2.1)	73 (1.6)	27 (1.6)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	36 (3.7)	286 (2.3)	10 (1.8)	40 (3.1)	80 (1.7)	20 (1.7)
West Virginia	35 (5.1)	267 (1.1)	2 (0.6)	20 (1.4)	63 (1.3)	37 (1.3)
Wisconsin	34 (4.5)	288 (1.2)	7 (1.1)	43 (2.5)	85 (1.5)	15 (1.5)
Wyoming	23 (0.5)	282 (1.1)	4 (0.8)	34 (2.6)	81 (2.4)	19 (2.4)
TERRITORIES						
Guam	15 (0.2)	237 (2.1)	0 (0.5)	7 (2.1)	29 (2.5)	71 (2.5)
Virgin Islands	29 (0.2)	231 (1.3)	0 (0.3)	3 (1.3)	20 (1.9)	80 (1.9)

(xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.19 | Average Mathematics Proficiency and Achievement Levels for the Bottom One-Third of the Schools

PUBLIC SCHOOLS	Grade 4 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	23 (1.6)	192 (1.0)	0 (0.1)	2 (0.4)	26 (1.5)	74 (1.5)
Northeast	24 (3.8)	194 (2.1)	0 (0.3)	4 (1.3)	28 (2.4)	72 (2.4)
Southeast	38 (4.3)	192 (1.9)	0 (0.1)	2 (0.6)	26 (2.6)	74 (2.6)
Central	12 (3.3)	190 (3.2)!	0 (0.0)!	1 (0.6)!	25 (4.7)!	75 (4.7)!
West	20 (2.6)	190 (1.3)	0 (0.1)	2 (0.5)	25 (1.9)	75 (1.9)
STATES						
Alabama	32 (4.5)	188 (1.1)	0 (0.0)	2 (0.5)	21 (1.6)	79 (1.6)
Arizona	35 (3.7)	197 (1.6)	0 (0.2)	3 (1.0)	32 (2.3)	68 (2.3)
Arkansas	32 (3.7)	194 (1.5)	0 (0.2)	4 (0.9)	30 (2.2)	70 (2.2)
California	31 (3.9)	183 (2.2)	0 (0.1)	2 (0.7)	23 (2.3)	77 (2.3)
Colorado	32 (3.3)	205 (1.0)	0 (0.3)	7 (1.1)	43 (2.0)	57 (2.0)
Connecticut	30 (3.2)	203 (2.4)	0 (0.2)	7 (1.3)	39 (3.6)	61 (3.6)
Delaware	40 (0.3)	207 (1.4)	1 (0.5)	10 (1.2)	44 (1.7)	56 (1.7)
Dist. Columbia	38 (0.3)	175 (0.8)	0 (0.0)	0 (0.1)	9 (1.0)	91 (1.0)
Florida	33 (4.0)	194 (1.9)	0 (0.1)	3 (0.7)	31 (2.2)	69 (2.2)
Georgia	36 (3.4)	196 (1.2)	0 (0.2)	5 (1.0)	32 (2.1)	68 (2.1)
Hawaii	34 (4.6)	197 (1.4)	0 (0.2)	6 (1.0)	36 (1.9)	64 (1.9)
Idaho	34 (5.2)	211 (1.2)	0 (0.3)	9 (1.3)	51 (1.9)	49 (1.9)
Indiana	33 (4.6)	206 (1.2)	0 (0.2)	5 (0.9)	42 (2.0)	58 (2.0)
Iowa	33 (4.1)	217 (1.2)	1 (0.4)	15 (1.5)	60 (1.9)	40 (1.9)
Kentucky	32 (3.6)	201 (0.9)	0 (0.1)	4 (0.7)	36 (1.9)	64 (1.9)
Louisiana	33 (4.1)	181 (2.1)	0 (0.1)	1 (0.6)	14 (1.6)	86 (1.6)
Maine	34 (5.7)	221 (0.9)	1 (0.5)	17 (1.3)	65 (1.7)	35 (1.7)
Maryland	35 (3.6)	195 (2.1)	0 (0.2)	5 (1.0)	32 (2.4)	68 (2.4)
Massachusetts	28 (3.8)	203 (1.9)	0 (0.2)	6 (1.3)	41 (2.6)	59 (2.6)
Michigan	33 (4.4)	197 (2.9)	0 (0.2)	6 (1.2)	35 (3.3)	65 (3.3)
Minnesota	38 (4.7)	217 (1.4)	2 (0.6)	16 (1.2)	59 (2.5)	41 (2.5)
Mississippi	36 (3.4)	183 (1.6)	0 (0.1)	1 (0.3)	18 (1.6)	82 (1.6)
Missouri	32 (3.9)	204 (1.9)	0 (0.2)	6 (1.1)	42 (2.3)	58 (2.3)
Nebraska	33 (4.4)	209 (1.1)	0 (0.3)	9 (1.6)	49 (2.5)	51 (2.5)
New Hampshire	32 (4.6)	215 (1.1)	0 (0.3)	11 (1.7)	59 (2.4)	41 (2.4)
New Jersey	31 (3.1)	202 (2.7)	0 (0.3)	6 (1.6)	38 (4.1)	62 (4.1)
New Mexico	35 (5.3)	197 (1.4)	0 (0.2)	3 (0.8)	31 (2.7)	69 (2.7)
New York	37 (4.6)	198 (2.1)	0 (0.2)	5 (1.0)	34 (3.2)	66 (3.2)
North Carolina	34 (4.5)	197 (1.0)	0 (0.1)	5 (0.8)	35 (1.9)	65 (1.9)
North Dakota	34 (3.9)	218 (0.9)	1 (0.4)	12 (1.6)	61 (1.7)	39 (1.7)
Ohio	29 (3.6)	199 (1.9)	0 (0.2)	5 (0.9)	33 (2.8)	67 (2.8)
Oklahoma	30 (3.8)	207 (1.2)	0 (0.3)	6 (1.2)	44 (2.4)	56 (2.4)
Pennsylvania	30 (3.9)	202 (2.2)	0 (0.2)	6 (1.2)	40 (3.3)	60 (3.3)
Rhode Island	32 (4.1)	192 (2.4)	0 (0.2)	2 (1.1)	26 (2.5)	74 (2.5)
South Carolina	31 (3.7)	194 (1.4)	0 (0.1)	3 (0.8)	26 (2.2)	74 (2.2)
Tennessee	33 (4.4)	193 (1.8)	0 (0.1)	2 (0.8)	27 (2.3)	73 (2.3)
Texas	33 (3.8)	200 (1.5)	0 (0.3)	5 (1.1)	36 (2.4)	64 (2.4)
Utah	35 (4.7)	211 (1.1)	0 (0.2)	9 (1.2)	53 (2.1)	47 (2.1)
Virginia	34 (3.6)	202 (1.2)	0 (0.2)	5 (0.7)	38 (1.9)	62 (1.9)
West Virginia	33 (4.0)	202 (1.1)	0 (0.2)	4 (0.9)	39 (1.7)	61 (1.7)
Wisconsin	32 (4.5)	214 (1.5)	1 (0.3)	12 (1.2)	56 (2.0)	44 (2.0)
Wyoming	37 (5.0)	215 (1.2)	1 (0.3)	12 (1.3)	57 (2.3)	43 (2.3)
TERRITORY						
Guam	37 (0.2)	180 (1.5)	0 (0.2)	3 (0.5)	18 (1.7)	82 (1.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 2.19 | Average Mathematics Proficiency and Achievement Levels for the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	25 (1.9)	240 (1.4)	0 (0.1)	6 (1.0)	30 (2.1)	70 (2.1)
Northeast	29 (3.8)	237 (2.6)	0 (0.2)	4 (1.7)	24 (4.3)	76 (4.3)
Southeast	37 (5.5)	242 (2.8)	1 (0.4)	7 (1.9)	34 (3.8)	66 (3.8)
Central	14 (2.6)	240 (3.6)	0 (0.3)	5 (1.4)	30 (5.3)	70 (5.3)
West	20 (3.7)	240 (1.7)	0 (0.3)	6 (1.1)	30 (1.9)	70 (1.9)
STATES						
Alabama	36 (4.7)	234 (2.9)	0 (0.2)	3 (0.9)	24 (2.5)	76 (2.5)
Arizona	32 (3.7)	247 (2.0) >	0 (0.4)	7 (0.9)	40 (3.2)	60 (3.2)
Arkansas	33 (4.1)	240 (1.4)	0 (0.3)	5 (0.7)	32 (1.8)	68 (1.8)
California	33 (4.1)	236 (2.0)	0 (0.2)	5 (1.1)	29 (2.2)	71 (2.2)
Colorado	34 (4.0)	257 (1.3) >	0 (0.4)	14 (1.3)	52 (1.8)	48 (1.8)
Connecticut	36 (3.2)	251 (2.1)	1 (0.2)	11 (1.6)	44 (2.5)	56 (2.5)
Delaware	41 (0.2) «	255 (1.3) >	1 (0.4)	13 (1.4)	48 (2.2)	52 (2.2)
Dist. Columbia	38 (0.4)	219 (1.1)	0 (0.0)	1 (0.3)	12 (1.3)	88 (1.3)
Florida	34 (3.8)	241 (2.4)	1 (0.3)	7 (1.0)	35 (2.8)	65 (2.8)
Georgia	34 (3.9)	242 (1.3)	0 (0.1)	6 (1.2)	34 (1.8)	66 (1.8)
Hawaii	31 (0.3) «	241 (1.3) »	1 (0.4)	8 (1.1) >	35 (2.2) >	65 (2.2) <
Idaho	34 (3.5)	266 (1.1) >	1 (0.4)	18 (1.2)	64 (2.1)	36 (2.1)
Indiana	32 (3.6)	254 (1.6)	1 (0.5)	12 (1.3)	48 (2.5)	52 (2.5)
Iowa	33 (4.6)	272 (1.1) >	2 (0.6)	25 (1.7) >	69 (1.8)	31 (1.8)
Kentucky	36 (4.6)	250 (1.1)	1 (0.3)	9 (1.0)	44 (1.9) >	56 (1.9) <
Louisiana	32 (4.2)	229 (2.1)	0 (0.1)	2 (0.7)	19 (2.0)	81 (2.0)
Maine	37 (4.7)	269 (1.1)	2 (0.7)	23 (2.2)	68 (1.7)	32 (1.7)
Maryland	34 (3.4)	241 (2.6)	0 (0.2)	7 (1.7)	34 (3.2)	66 (3.2)
Massachusetts	33 (3.3)	251 (1.7)	1 (0.5)	10 (1.3)	44 (2.7)	56 (2.7)
Michigan	33 (3.4)	242 (1.9)	0 (0.2)	7 (1.3)	34 (2.7)	66 (2.7)
Minnesota	33 (5.5)	272 (1.1) »	3 (0.7)	26 (1.9) >	68 (2.1)	32 (2.1)
Mississippi	33 (2.9)	228 (1.1)	0 (0.1)	3 (0.5)	18 (1.4)	82 (1.4)
Missouri	34 (4.8)	257 (2.0)	1 (0.3)	12 (1.4)	52 (2.8)	48 (2.8)
Nebraska	39 (4.7)	266 (1.3) >	2 (0.4)	20 (1.8)	63 (2.0)	37 (2.0)
New Hampshire	35 (4.1)	268 (1.0) »	1 (0.3)	19 (1.8)	68 (1.4) >	32 (1.4) <
New Jersey	34 (4.1)	245 (3.2)	0 (0.2)	6 (1.8)	37 (4.2)	63 (4.2)
New Mexico	29 (3.3)	245 (1.2) >	0 (0.2)	5 (1.3)	37 (1.8)	63 (1.8)
New York	39 (4.8)	241 (3.9)	1 (0.4)	8 (1.5)	36 (4.3)	64 (4.3)
North Carolina	33 (4.9)	244 (1.5) »	1 (0.3)	7 (1.2)	37 (1.9) »	63 (1.9) «
North Dakota	37 (4.3)	275 (1.4) »	3 (0.8)	25 (1.8)	76 (2.4)	24 (2.4)
Ohio	31 (4.4)	246 (2.1)	0 (0.2)	7 (1.0)	39 (2.4)	61 (2.4)
Oklahoma	35 (5.0)	255 (1.5) >	0 (0.3)	10 (1.5)	49 (3.0)	51 (3.0)
Pennsylvania	33 (4.0)	253 (2.1)	1 (0.6)	11 (1.2)	47 (2.7)	53 (2.7)
Rhode Island	32 (0.1) «	247 (1.4)	1 (0.3)	7 (1.5)	40 (2.4)	60 (2.4)
South Carolina	33 (3.7)	244 (1.2)	1 (0.4)	7 (1.1)	35 (2.1)	65 (2.1)
Tennessee	33 (4.6)	243 (1.8)	0 (0.1)	6 (1.0)	34 (2.3)	66 (2.3)
Texas	33 (4.0)	246 (1.1) >	1 (0.3)	8 (1.1)	38 (1.4) >	62 (1.4) <
Utah	35 (4.3)	265 (0.8)	1 (0.6)	20 (1.8)	61 (1.7)	39 (1.7)
Virginia	34 (4.2)	248 (1.2) >	0 (0.3)	7 (0.8)	40 (1.7)	60 (1.7)
West Virginia	33 (5.0)	248 (1.1) >	0 (0.1)	7 (1.0)	39 (1.8)	61 (1.8)
Wisconsin	31 (4.3)	261 (2.3)	1 (0.3)	16 (1.5)	58 (3.2)	42 (3.2)
Wyoming	29 (3.4)	265 (1.8)	1 (0.5)	17 (2.0)	62 (3.1)	38 (3.1)
TERRITORIES						
Guam	45 (0.3)	229 (1.8)	0 (0.3)	6 (0.8)	25 (2.1)	75 (2.1)
Virgin Islands	52 (0.1) »	214 (1.3) >	0 (0.0)	0 (0.3)	9 (1.0) >	91 (1.0) <

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. (xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.19 | Average Mathematics Proficiency and Achievement Levels for the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	35 (4.2)	243 (1.8)	1 (0.3)	8 (1.3)	36 (2.0)	64 (2.0)
Northeast	24(11.6)	248 (6.0)!	0 (1.1)!	10 (3.8)!	40 (7.0)!	60 (7.0)!
Southeast	63 (9.4)	245 (2.8)	1 (0.4)	9 (1.5)	37 (3.0)	63 (3.0)
Central	22 (4.8)	236 (3.7)!	0 (0.0)!	3 (2.2)!	27 (3.9)!	73 (3.9)!
West	31 (7.5)	243 (3.7)!	1 (0.6)!	8 (2.9)!	37 (4.4)!	63 (4.4)!
STATES						
Alabama	34 (4.3)	237 (1.3)	0 (0.3)	4 (0.8)	29 (2.1)	71 (2.1)
Arizona	33 (4.0)	241 (1.8)	0 (0.2)	5 (1.1)	33 (2.2)	67 (2.2)
Arkansas	36 (3.5)	242 (1.4)	0 (0.2)	5 (1.1)	32 (1.4)	68 (1.4)
California	33 (4.0)	236 (1.7)	0 (0.4)	6 (1.2)	28 (2.1)	72 (2.1)
Colorado	33 (3.1)	252 (1.6)	1 (0.3)	10 (1.3)	46 (2.0)	54 (2.0)
Connecticut	37 (3.5)	250 (1.4)	1 (0.3)	11 (1.1)	45 (2.0)	55 (2.0)
Delaware	43 (0.3)	250 (1.2)	0 (0.3)	9 (1.1)	43 (1.6)	57 (1.6)
Dist. Columbia	38 (0.3)	219 (1.1)	0 (0.0)	0 (0.1)	9 (1.2)	91 (1.2)
Florida	33 (4.0)	239 (1.6)	0 (0.2)	6 (1.0)	31 (2.1)	69 (2.1)
Georgia	36 (4.6)	243 (1.1)	0 (0.2)	7 (0.7)	36 (1.8)	64 (1.8)
Hawaii	32 (0.2)	234 (1.3)	0 (0.2)	4 (0.9)	28 (1.9)	72 (1.9)
Idaho	29 (0.8)	261 (1.7)	1 (0.4)	14 (1.8)	56 (3.4)	44 (3.4)
Indiana	34 (4.3)	254 (1.7)	1 (0.3)	10 (1.1)	46 (2.4)	54 (2.4)
Iowa	38 (5.1)	268 (1.1)	1 (0.7)	19 (1.2)	66 (1.6)	34 (1.6)
Kentucky	36 (4.8)	246 (1.4)	1 (0.4)	9 (1.1)	36 (2.4)	64 (2.4)
Louisiana	34 (3.2)	229 (1.4)	0 (0.0)	1 (0.4)	17 (1.5)	83 (1.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	35 (3.3)	239 (1.6)	0 (0.2)	6 (0.8)	31 (2.4)	69 (2.4)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	34 (4.2)	244 (1.9)	0 (0.1)	5 (1.3)	37 (3.1)	63 (3.1)
Minnesota	36 (4.4)	265 (1.3)	2 (0.5)	19 (1.5)	63 (2.0)	37 (2.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	36 (3.2)	261 (1.3)	1 (0.5)	15 (1.1)	59 (2.0)	41 (2.0)
New Hampshire	36 (0.9)	262 (1.5)	1 (0.3)	14 (1.5)	58 (3.5)	42 (3.5)
New Jersey	32 (3.7)	246 (2.7)	0 (0.3)	7 (1.5)	35 (3.4)	65 (3.4)
New Mexico	28 (0.8)	241 (1.0)	0 (0.0)	3 (0.8)	32 (1.7)	68 (1.7)
New York	40 (3.6)	239 (2.3)	1 (0.4)	7 (1.2)	31 (2.4)	69 (2.4)
North Carolina	35 (3.9)	236 (1.1)	0 (0.1)	4 (0.8)	28 (1.5)	72 (1.5)
North Dakota	29 (2.7)	267 (1.6)	2 (0.8)	19 (2.1)	67 (3.3)	33 (3.3)
Ohio	34 (3.6)	248 (1.2)	1 (0.5)	8 (1.1)	40 (2.5)	60 (2.5)
Oklahoma	33 (4.4)	249 (1.5)	0 (0.1)	6 (1.0)	41 (2.0)	59 (2.0)
Pennsylvania	36 (4.2)	249 (2.2)	1 (0.4)	10 (1.4)	43 (2.9)	57 (2.9)
Rhode Island	40 (0.8)	244 (0.8)	1 (0.4)	9 (1.1)	37 (1.2)	63 (1.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	32 (4.5)	241 (2.0)	0 (0.3)	6 (0.9)	31 (2.4)	69 (2.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	33 (3.7)	244 (1.3)	0 (0.1)	5 (1.2)	35 (1.8)	65 (1.8)
West Virginia	32 (3.9)	245 (0.8)	0 (0.2)	5 (0.8)	35 (1.5)	65 (1.5)
Wisconsin	35 (4.0)	259 (2.0)	1 (0.4)	14 (1.4)	54 (2.6)	46 (2.6)
Wyoming	35 (0.7)	264 (1.1)	1 (0.4)	15 (1.5)	61 (2.1)	39 (2.1)
TERRITORIES						
Guam	45 (0.2)	227 (1.2)	0 (0.2)	4 (0.8)	23 (1.7)	77 (1.7)
Virgin Islands	50 (0.2)	209 (1.3)	0 (0.0)	0 (0.2)	5 (1.0)	95 (1.0)

(xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.20 | Percentages of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools

PUBLIC SCHOOLS	Grade 4 - 1992								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	55 (3.9)	11 (2.3)!	19 (3.2)	54 (7.0)!	28 (6.2)!	91 (5.0)!	3 (2.6)!	46(11.5)!	44 (4.0)
Northeast	73 (8.4)	22 (6.4)!	23 (4.8)!	*** (***)	*** (***)	94 (5.5)!	10 (5.7)!	*** (***)	61 (8.6)
Southeast	29 (7.9)!	7 (3.3)!	10 (5.2)!	*** (***)	*** (***)	79(22.1)!	0 (0.0)	21(14.7)!	21 (7.1)!
Central	65 (9.1)	7 (4.1)!	35 (9.4)!	*** (***)	*** (***)	81(21.2)!	0 (0.0)	75(20.0)!	57 (9.0)
West	53 (5.5)	16 (3.9)!	16 (4.7)!	59 (8.9)!	*** (***)	100 (0.0)!	0 (0.0)	42(20.1)!	40 (7.0)
STATES									
Alabama	43 (6.3)	13 (3.6)!	22 (6.3)!	*** (***)	*** (***)	90(10.7)!	5 (5.0)!	18(12.2)!	38 (6.8)!
Arizona	49 (3.7)	18 (5.0)!	17 (2.4)	*** (***)	13 (4.2)!	80(13.7)!	24(16.1)!	14(11.8)!	29 (5.2)!
Arkansas	42 (4.6)	6 (1.4)!	26 (4.4)	*** (***)	51 (9.0)!	*** (***)	0 (0.0)	38(10.1)!	35 (4.3)
California	48 (6.4)	19 (5.3)!	16 (3.5)!	44 (6.9)!	41(11.7)!	100 (0.0)!	9 (6.1)!	*** (***)	30 (6.2)!
Colorado	42 (4.7)	12 (3.8)!	18 (3.2)	40 (5.9)	23 (5.8)!	75 (9.2)!	0 (0.0)	39(11.9)!	31 (6.0)!
Connecticut	44 (4.6)	9 (2.8)!	11 (3.0)!	*** (***)	*** (***)	68(10.4)!	3 (3.4)!	*** (***)	38 (6.8)!
Delaware	32 (0.8)	30 (1.9)	23 (2.2)	*** (***)	*** (***)	50 (0.8)	0 (0.0)	13 (0.2)	40 (0.3)
Dist. Columbia	83 (4.2)	27 (0.4)	26 (1.9)	*** (***)	*** (***)	93 (0.5)	17 (0.4)	*** (***)	27 (0.6)
Florida	45 (4.9)	13 (3.6)!	25 (5.5)!	*** (***)	*** (***)	78(11.1)!	0 (0.0)	25(26.1)!	36 (5.6)
Georgia	46 (5.2)	10 (3.0)!	23 (4.8)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	20(11.5)!	31 (5.8)
Hawaii	38 (5.5)	26 (6.2)!	24 (4.2)	31 (4.6)	*** (***)	64(15.3)!	0 (0.0)	3 (3.5)!	34 (6.1)
Idaho	35 (4.6)	*** (***)	21 (4.0)	*** (***)	24 (5.9)!	100 (0.0)!	*** (***)	15 (6.2)!	38 (7.1)!
Indiana	37 (4.8)	12 (5.4)!	21 (6.0)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	22(11.0)!	33 (6.1)!
Iowa	34 (4.7)	18 (6.9)!	35 (6.4)!	*** (***)	*** (***)	83(17.8)!	0 (0.0)	29 (6.8)!	40 (8.2)!
Kentucky	35 (3.5)	39 (8.0)!	29 (6.5)!	*** (***)	*** (***)	100 (0.0)!	16(11.8)!	40(10.0)!	33 (5.3)
Louisiana	53 (5.3)	17 (3.2)	36 (7.1)!	*** (***)	*** (***)	100 (0.0)!	6 (5.6)!	42(12.0)!	39 (5.7)
Maine	32 (4.9)	*** (***)	22 (7.2)!	*** (***)	*** (***)	*** (***)	*** (***)	37(13.6)!	30 (6.4)!
Maryland	42 (4.1)	11 (2.9)!	26 (5.7)!	52 (9.4)!	*** (***)	63(10.6)	0 (0.0)	28(26.8)!	24 (5.2)!
Massachusetts	42 (4.8)	6 (1.9)!	21 (4.7)!	30 (7.2)!	*** (***)	81 (9.6)!	0 (0.0)	*** (***)	39 (6.8)
Michigan	40 (6.0)	9 (3.6)!	26 (5.7)!	*** (***)	26 (7.6)!	85(15.9)!	6 (5.8)!	19(12.5)!	39 (6.7)
Minnesota	32 (4.4)	9 (3.2)!	21 (3.9)	*** (***)	*** (***)	64(19.3)!	*** (***)	17 (7.7)!	23 (6.4)!
Mississippi	55 (4.5)	13 (2.1)	19 (4.0)	*** (***)	*** (***)	*** (***)	7 (6.3)!	33 (9.4)!	32 (3.5)
Missouri	42 (5.2)	18 (3.2)	32 (5.4)	*** (***)	*** (***)	89(11.3)!	6 (6.4)!	22 (8.5)!	43 (7.8)!
Nebraska	37 (5.1)	10 (3.0)!	25 (6.0)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	32 (9.9)!	26 (6.1)!
New Hampshire	34 (5.1)	*** (***)	19 (6.1)!	*** (***)	*** (***)	55(23.9)!	*** (***)	63(16.9)!	32 (5.3)
New Jersey	47 (5.8)	6 (1.6)!	20 (3.4)	55 (9.0)!	*** (***)	86 (8.0)	0 (0.0)	*** (***)	26 (6.6)!
New Mexico	50 (6.9)	36 (8.8)!	19 (3.7)	*** (***)	13 (7.5)!	100 (0.0)!	0 (0.0)	0 (0.0)	34 (6.1)!
New York	44 (4.6)	7 (3.1)!	11 (2.6)!	35(10.1)!	*** (***)	64(13.0)!	0 (0.0)	*** (***)	36 (7.3)!
North Carolina	41 (4.7)	21 (3.5)	38 (8.0)!	*** (***)	21(10.5)!	100 (0.0)!	17(18.5)!	34(11.6)!	30 (5.1)
North Dakota	35 (4.4)	*** (***)	35 (9.0)!	*** (***)	20 (7.3)!	80(10.4)!	*** (***)	24 (6.4)!	26 (7.2)!
Ohio	37 (4.3)	9 (2.7)!	29 (5.0)	*** (***)	28 (6.9)!	89 (9.3)!	4 (3.7)!	19 (9.9)!	42 (6.8)
Oklahoma	41 (4.8)	16 (4.9)!	36 (7.2)!	*** (***)	29 (5.2)	64(19.3)!	12(12.0)!	39(10.6)!	38 (6.9)!
Pennsylvania	39 (5.2)	5 (1.5)!	19 (4.1)!	*** (***)	*** (***)	59(16.3)!	0 (0.0)	25(12.4)!	34 (6.8)!
Rhode Island	42 (5.7)	5 (2.4)!	16 (3.1)!	7 (3.8)!	*** (***)	90 (8.8)!	0 (0.0)	*** (***)	40 (7.5)!
South Carolina	49 (5.0)	19 (3.6)	29 (6.2)	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	5 (5.3)!	38 (5.4)
Tennessee	40 (4.2)	18 (4.6)!	24 (6.3)!	*** (***)	*** (***)	84(17.5)!	0 (0.0)	18(11.5)!	36 (5.7)
Texas	54 (6.4)	14 (4.2)!	22 (5.3)!	47 (9.5)!	*** (***)	100 (0.0)!	19(11.7)!	69(16.6)!	24 (6.4)!
Utah	33 (4.3)	*** (***)	20 (4.6)!	*** (***)	*** (***)	73(10.1)!	0 (0.0)	28(16.7)!	25 (5.4)!
Virginia	44 (4.8)	10 (2.8)!	31 (7.0)!	48 (8.7)!	*** (***)	73(14.8)!	0 (0.0)	7 (6.0)!	37 (7.2)!
West Virginia	35 (4.0)	31 (8.0)!	41 (7.2)!	*** (***)	*** (***)	*** (***)	27(16.3)!	21 (9.6)!	35 (5.3)
Wisconsin	37 (5.4)	13 (5.9)!	28 (5.8)	*** (***)	13 (8.3)!	65(19.3)!	0 (0.0)	28 (8.9)!	39 (7.5)!
Wyoming	31 (4.2)	*** (***)	25 (4.8)!	*** (***)	14 (5.2)!	62(12.1)!	0 (0.0)	50(11.3)!	26 (5.8)!
TERRITORY									
Guam	44 (2.7)	39 (5.6)	24 (1.7)	33 (0.7)	*** (***)	*** (***)	*** (***)	0 (0.0)	45 (0.2)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***The number of schools or students was considered insufficient for this analysis. Underlying subgroup population proportions provided in previous tables should be considered in interpreting these results. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 2.20 | Percentages of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 4 - 1992						
	Percentage of Students by Parents' Highest Level of Education					Percentage of Students by Gender	
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Male	Female
NATION	55 (3.0)	40 (3.8)	36 (3.9)	25 (3.9)	38 (3.1)	44 (2.9)	44 (3.1)
Northeast	70 (6.1)	50(10.6)	53(10.0)	*** (***)	52 (6.7)	61 (5.9)	57 (8.0)
Southeast	30 (6.7)!	20 (6.0)!	14 (6.2)!	10 (5.3)!	16 (3.6)!	20 (5.8)!	22 (4.8)!
Central	64 (7.3)	50 (9.2)	50(10.4)!	*** (***)	50 (9.5)	58 (8.1)	54 (8.6)
West	55 (4.4)	43 (7.1)!	35 (6.0)	21 (6.9)!	35 (5.1)	41 (4.4)	44 (4.6)
STATES							
Alabama	39 (5.3)	39 (7.5)!	32 (6.5)!	24 (6.0)!	29 (5.2)	34 (5.4)	33 (5.2)
Arizona	41 (3.5)	40 (4.5)	30 (4.1)	27 (5.7)!	32 (3.1)	35 (3.0)	35 (3.1)
Arkansas	35 (4.0)	36 (5.1)	33 (4.5)	35 (5.7)	31 (3.7)	35 (3.9)	32 (3.7)
California	47 (6.1)	29 (5.4)	32 (6.0)!	14 (4.4)!	28 (4.4)	34 (4.9)	35 (4.8)
Colorado	46 (4.7)	31 (5.3)	23 (4.3)	17 (4.8)!	29 (3.9)	33 (4.1)	36 (4.1)
Connecticut	46 (4.8)	31 (5.5)	21 (3.3)	13 (3.8)!	30 (3.9)	36 (4.1)	35 (4.0)
Delaware	38 (1.2)	26 (3.5)	33 (3.8)	20 (5.1)!	25 (1.2)	29 (1.0)	32 (1.0)
Dist. Columbia	38 (1.1)	32 (3.6)	23 (2.0)	12 (3.6)!	26 (1.0)	29 (1.0)	31 (1.0)
Florida	42 (5.4)	38 (5.4)	23 (4.0)	25 (6.5)!	31 (4.3)	36 (4.8)	32 (4.2)
Georgia	39 (5.0)	35 (5.4)	22 (4.2)	20 (5.0)!	31 (4.4)	31 (4.4)	33 (4.3)
Hawaii	38 (4.9)	36 (5.4)	26 (4.2)	8 (3.5)!	29 (4.3)	31 (4.2)	33 (4.3)
Idaho	39 (4.9)	35 (6.3)	24 (4.4)	15 (4.5)!	32 (4.3)	34 (4.4)	32 (4.5)
Indiana	41 (4.9)	38 (5.6)	27 (4.8)	20 (5.6)!	31 (4.7)	33 (4.5)	35 (4.7)
Iowa	40 (5.1)	36 (5.5)	28 (4.9)	15 (4.3)!	31 (5.1)	35 (4.8)	33 (4.7)
Kentucky	47 (4.8)	30 (4.5)	31 (3.7)	19 (4.0)!	34 (3.6)	36 (3.9)	34 (3.4)
Louisiana	44 (4.6)	45 (5.7)	27 (4.1)	22 (4.8)!	33 (4.6)	37 (4.3)	35 (4.3)
Maine	39 (6.2)	28 (5.8)!	25 (4.3)	23 (5.9)!	26 (4.8)	32 (5.1)	30 (4.8)
Maryland	40 (4.1)	36 (5.0)	21 (3.5)	17 (4.2)!	27 (3.9)	34 (3.7)	30 (3.6)
Massachusetts	48 (4.7)	37 (7.1)!	27 (4.9)	6 (3.1)!	27 (4.4)	37 (4.3)	37 (4.6)
Michigan	45 (6.1)	33 (6.9)!	26 (5.4)	27 (6.9)!	28 (4.8)	35 (5.4)	34 (5.1)
Minnesota	37 (4.5)	34 (6.4)!	21 (4.1)	*** (***)	28 (4.0)	31 (4.1)	31 (4.1)
Mississippi	33 (3.3)	32 (5.0)	29 (4.4)	26 (4.8)!	31 (3.4)	31 (3.0)	31 (2.9)
Missouri	47 (4.5)	31 (5.3)	29 (5.7)!	24 (6.6)!	35 (5.0)	38 (4.8)	37 (4.6)
Nebraska	42 (5.3)	37 (6.2)	28 (5.1)	*** (***)	28 (4.7)	34 (4.9)	35 (5.0)
New Hampshire	40 (6.1)	34 (5.9)!	28 (5.3)!	17 (5.4)!	28 (4.3)	35 (5.3)	31 (4.8)
New Jersey	49 (5.4)	32 (5.7)	27 (5.0)	22 (5.9)!	25 (3.9)	39 (4.6)	35 (4.5)
New Mexico	49 (6.3)	35 (7.2)!	23 (5.0)!	18 (5.1)!	28 (4.6)	32 (5.2)	35 (5.4)
New York	42 (4.6)	42 (5.5)	29 (6.1)!	18 (4.6)!	21 (3.2)	32 (3.7)	31 (3.7)
North Carolina	38 (4.6)	40 (5.9)	29 (4.0)	29 (5.3)	32 (4.6)	34 (4.0)	35 (4.5)
North Dakota	37 (4.4)	35 (5.9)	31 (5.5)	*** (***)	32 (4.8)	36 (4.7)	33 (4.3)
Ohio	47 (4.4)	40 (6.8)	22 (3.5)	17 (3.9)!	27 (3.9)	34 (4.0)	33 (4.0)
Oklahoma	45 (5.2)	38 (5.8)	28 (4.3)	24 (5.0)!	34 (4.8)	37 (4.5)	36 (4.6)
Pennsylvania	43 (5.2)	37 (5.4)	27 (5.2)	20 (5.9)!	27 (4.3)	33 (4.8)	34 (4.4)
Rhode Island	46 (5.5)	36 (6.6)!	31 (6.4)!	25 (6.2)!	28 (4.8)	34 (5.0)	36 (5.0)
South Carolina	46 (4.3)	36 (5.6)	28 (4.7)	25 (5.1)!	31 (4.4)	35 (4.3)	37 (4.2)
Tennessee	46 (5.3)	38 (5.5)	24 (3.7)	26 (4.4)	29 (4.0)	34 (4.1)	35 (4.2)
Texas	47 (5.3)	42 (6.8)	31 (5.7)!	24 (5.1)!	33 (4.8)	40 (4.8)	35 (4.7)
Utah	42 (4.7)	31 (4.5)	13 (3.9)!	11 (4.0)!	28 (4.4)	30 (4.0)	33 (4.3)
Virginia	46 (5.0)	32 (6.1)!	18 (3.2)	19 (4.3)!	31 (4.2)	35 (4.3)	36 (4.3)
West Virginia	47 (5.2)	40 (5.4)	27 (4.1)	22 (3.9)	31 (4.0)	34 (4.2)	36 (4.1)
Wisconsin	40 (5.3)	34 (6.1)	33 (5.6)	28 (7.2)!	29 (4.9)	35 (5.4)	33 (4.9)
Wyoming	34 (4.6)	34 (5.9)!	25 (4.1)	20 (5.1)!	27 (4.4)	30 (4.1)	29 (4.1)
TERRITORY							
Guam	31 (1.2)	42 (4.5)	32 (3.4)	33 (4.5)	34 (1.0)	34 (1.0)	33 (1.1)

TABLE 2.20 | Percentages of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1992								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	48 (5.0)	12 (2.4)!	21 (3.9)	52 (9.5)!	38 (5.8)!	67(13.3)!	6 (4.0)!	46(14.8)!	40 (5.4)
Northeast	58(11.3)!	16 (5.1)!	15 (4.4)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	*** (***)	38(10.6)!
Southeast	11 (5.3)!	6 (3.1)!	7 (3.9)!	*** (***)	*** (***)	0 (0.0)	13 (9.6)!	0 (0.0)	12 (5.6)!
Central	68 (9.0)	14 (6.0)!	43 (8.7)!	*** (***)	*** (***)	83(12.6)!	0 (0.0)	100 (0.0)!	59(10.4)!
West	56(12.6)!	20 (7.2)!	21 (5.7)!	51(15.4)!	*** (***)	56(27.9)!	12(10.2)!	41(21.9)!	48(12.7)!
STATES									
Alabama	43 (5.7)	11 (3.1)!	15 (5.2)!	*** (***)	*** (***)	30(35.4)!	7 (7.3)!	27(13.3)!	41 (6.3)
Arizona	48 (5.3)	27 (7.2)!	19 (5.1)!	*** (***)	11 (3.8)!	81(12.4)!	8 (8.8)!	8 (7.2)!	30 (5.9)!
Arkansas	40 (4.8)	5 (2.1)!	20 (3.9)	*** (***)	*** (***)	*** (***)	0 (0.0)	36(12.4)!	32 (5.3)
California	48 (5.9)	15 (5.2)!	16 (3.2)!	46 (6.9)	*** (***)	100 (0.0)!	3 (2.7)!	*** (***)	36 (6.8)!
Colorado	41 (4.6)	8 (3.4)!	14 (3.2)!	*** (***)	*** (***)	73(10.9)!	0 (0.0)	28(14.6)!	30 (5.7)!
Connecticut	42 (3.7)	7 (2.0)!	9 (1.7)	41 (8.3)	*** (***)	38(16.7)!	0 (0.0)	*** (***)	38 (5.7) >
Delaware	30 (0.7) >	25 (1.9)	30 (4.3) >	*** (***)	*** (***)	*** (***)	*** (***)	33 (0.4)»	24 (0.3)»
Dist. Columbia	*** (***)	29 (0.7) >	37 (3.5)	*** (***)	*** (***)	100 (0.0)	7 (0.3)«	*** (***)	78 (0.8)»
Florida	48 (4.6)	21 (5.2)!	16 (3.7)	*** (***)	*** (***)	64(20.2)!	18(13.1)!	24(24.0)!	38 (5.2)
Georgia	45 (5.2)	16 (4.2)!	24 (8.0)!	*** (***)	*** (***)	67(16.1)!	0 (0.0)	0 (0.0)	40 (5.7)
Hawaii	42 (2.5)«	*** (***)	25 (2.0)«	37 (0.8)«	*** (***)	0 (0.0)	0 (0.0)	*** (***)	32 (0.3)«
Idaho	31 (4.0)	*** (***)	16 (3.8)!	*** (***)	24 (6.3)!	100 (0.0)!	50(24.0)!	28 (9.5)! >	31 (4.2) <
Indiana	37 (5.7)	12 (6.6)!	17 (5.7)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	18(12.3)!	36 (6.4)!
Iowa	32 (4.7)	*** (***)	20 (4.5)!	*** (***)	*** (***)	64(37.8)!	0 (0.0)	42 (8.5)!	19 (6.2)!
Kentucky	33 (4.7)	28 (7.3)!	27 (7.3)!	*** (***)	*** (***)	100 (0.0)!	17(11.8)!	20(11.3)!	37 (5.9)
Louisiana	47 (6.6)	16 (3.3)	20 (5.1)!	*** (***)	*** (***)	*** (***)	4 (4.5)!	28(20.4)!	40 (5.9)
Maine	30 (4.6)	*** (***)	*** (***)	*** (***)	16 (6.0)!	*** (***)	*** (***)	14 (9.1)!	30 (5.4)
Maryland	44 (5.2)	9 (2.4)!	23 (4.0)	48 (9.0)!	*** (***)	80(10.9)!	0 (0.0)	*** (***)	27 (7.6)!
Massachusetts	39 (4.7)	13 (5.0)!	11 (3.8)!	*** (***)	*** (***)	82(13.1)!	0 (0.0)	*** (***)	43 (7.6)
Michigan	44 (6.1)	3 (1.0)!	23 (6.6)!	*** (***)	*** (***)	81(14.6)!	0 (0.0)	39(16.3)!	38 (7.7)!
Minnesota	36 (4.9)	*** (***)	23 (5.9)!	*** (***)	*** (***)	67(35.5)! >	*** (***)	16(10.1)! <	38 (7.4)! <
Mississippi	50 (6.5)	19 (3.8)!	13 (3.6)!	*** (***)	*** (***)	*** (***)	12(10.8)!	34(16.0)!	32 (5.5)
Missouri	33 (4.8)	18 (6.0)!	21 (5.2)!	*** (***)	*** (***)	65(22.6)!	17 (3.5)	19(10.0)!	32 (6.1)!
Nebraska	30 (5.1)	1 (0.7)!	19 (5.8)!	*** (***)	*** (***)	*** (***)	0 (0.0)	34(10.4)! <	23 (5.2)! >
New Hampshire	28 (4.5)	*** (***)	19 (6.0)!	*** (***)	*** (***)	100 (0.0)!	*** (***)	16(18.6)! <	22 (4.7)! <
New Jersey	41 (4.5)	4 (1.6)!	10 (2.5)!	53 (6.9)	*** (***)	86(14.1)!	0 (0.0)	*** (***)	35 (5.4)
New Mexico	42 (4.9)	*** (***)	21 (3.4)	*** (***)	16 (5.0)!	100 (0.0)	0 (0.0)	25(19.2)!	27 (5.0)
New York	40 (5.1)	5 (2.7)!	10 (2.7)!	36 (7.3)!	*** (***)	88(12.6)!	0 (0.0)	45(18.3)!	26 (7.0)!
North Carolina	39 (5.5)	22 (4.6)	27 (6.8)!	*** (***)	*** (***)	68(32.2)	25(17.4)!	17(11.8)!	32 (5.6)
North Dakota	27 (4.2)«	*** (***)	*** (***)	*** (***)	10 (4.6)!	0 (0.0)	*** (***)	33 (7.9)! <	16 (5.7)! «
Ohio	39 (6.1)	6 (2.2)!	23 (4.8)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	36(20.6)!	36 (7.0)!
Oklahoma	36 (4.9)	15 (5.3)!	23 (4.5)	*** (***)	22 (5.5)!	*** (***)	0 (0.0)	8 (5.5)!	40 (5.9)
Pennsylvania	39 (4.7)	14 (7.9)!	22 (5.7)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	43(16.0)!	41 (6.1)
Rhode Island	35 (0.4) >	7 (2.2)!	7 (1.6)!	26 (5.9)!	*** (***)	88 (0.5)	0 (0.0)	*** (***)	26 (0.3)»
South Carolina	43 (4.5)	18 (2.6)	13 (2.8)!	*** (***)	*** (***)	100 (0.0)!	15(16.1)!	55(18.4)!	28 (4.1)
Tennessee	38 (4.4)	17 (4.9)!	22 (8.3)!	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	16(12.4)!	35 (5.3)
Texas	51 (5.9)	27 (7.0)!	16 (2.9)	69 (7.1)	*** (***)	100 (0.0)!	0 (0.0)	36(23.7)!	35 (6.3)
Utah	33 (4.0)	*** (***)	20 (3.9)	*** (***)	*** (***)	92 (8.0)	0 (0.0)	11(13.2)!	27 (4.7)
Virginia	37 (4.8)	15 (3.6)!	47 (8.4)!	52 (7.8)	*** (***)	87(15.7)!	10(10.1)!	0 (0.0)	27 (6.3)!
West Virginia	32 (4.9)	22 (8.8)!	21 (6.6)!	*** (***)	*** (***)	*** (***)	9(10.1)!	16 (9.9)!	38 (6.1)
Wisconsin	42 (5.2)	19 (9.9)!	26 (7.2)!	*** (***)	14 (6.4)!	89(15.0)!	0 (0.0)	45(17.6)!	31 (6.0)!
Wyoming	30 (3.4)	*** (***)	23 (3.6)	*** (***)	8 (4.1)!	*** (***)	39(12.4)!	36 (9.7)! <	22 (3.3) <
TERRITORIES									
Guam	10 (3.1)! «	*** (***)	9 (2.4)!	15 (0.6)	*** (***)	*** (***)	*** (***)	0 (0.0)	16 (0.2)«
Virgin Islands	*** (***)	30 (0.8) <	19 (2.1) >	*** (***)	*** (***)	*** (***)	*** (***)	0 (0.0)	0 (0.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 2.20 | Percentages of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools (continued)

	Grade 8 - 1992						
	Percentage of Students by Parents' Highest Level of Education					Percentage of Students by Gender	
PUBLIC SCHOOLS	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Male	Female
NATION	51 (4.8)	40 (4.8)	33 (4.2)	16 (3.0)	27 (3.6)	41 (4.1)	38 (4.2)
Northeast	56 (8.3)	44(10.5)!	44(11.4)!	25(12.0)!	25 (5.6)!	44 (8.8)	45 (9.2)!
Southeast	15 (7.5)!	9 (4.4)!	4 (2.1)!	2 (1.9)!	11 (5.4)!	9 (4.3)!	10 (4.7)!
Central	68 (8.1)	60 (7.3)	56 (9.7)!	*** (***)	45 (8.5)	61 (8.5)	58 (8.0)
West	60(10.8)!	45(12.5)!	33 (8.9)!	22 (5.0)!	28 (8.1)!	46 (9.4)!	44(10.0)!
STATES							
Alabama	40 (5.5)	33 (5.2)	29 (4.5)	24 (5.3)	20 (4.5)!	32 (4.6)	32 (4.8)
Arizona	52 (5.3)	38 (5.4)	28 (4.5)	14 (2.7)!	24 (5.4)!	36 (4.7)	38 (4.5)
Arkansas	34 (4.3)	38 (5.1)	29 (3.7)	28 (5.1)!	27 (5.3)	31 (4.1)	33 (4.0)
California	50 (5.5)	36 (5.3)	24 (4.5)	8 (2.3)!	19 (3.9)!	32 (4.2)	35 (4.8)
Colorado	45 (5.1)	33 (4.6)	22 (3.7)	17 (4.1)!	17 (3.7)!	34 (4.1)	35 (4.3)
Connecticut	50 (3.8)	24 (3.4)	18 (3.0)	11 (2.8)!	18 (3.3)	35 (3.2)	32 (3.2)
Delaware	35 (1.2)	26 (2.7)	27 (1.5)»	17 (2.9)	24 (4.4)	29 (0.9)	29 (0.9)
Dist. Columbia	51 (1.7)>	32 (2.4)	20 (1.4)	18 (3.0)	23 (2.4)	31 (1.2)	33 (1.7)
Florida	47 (4.6)	37 (4.8)	27 (3.8)	24 (4.5)	23 (3.8)	35 (4.0)	37 (4.3)
Georgia	49 (5.7)	34 (4.9)	24 (3.9)	24 (5.0)!	21 (5.4)!	34 (4.6)	34 (4.6)
Hawaii	45 (1.3)«	41 (2.9)<	28 (2.0)	24 (3.6)	31 (2.7)<	36 (1.0)«	37 (1.1)
Idaho	31 (4.0)<	31 (4.8)	29 (4.4)	18 (4.2)!	27 (5.5)!	30 (4.1)	28 (3.9)
Indiana	42 (6.2)	30 (5.4)	31 (5.4)	29 (6.1)!	25 (5.7)!	34 (5.2)	34 (5.6)
Iowa	37 (5.1)	31 (5.0)	27 (4.8)	16 (4.8)!	24 (5.1)!	32 (4.6)	32 (4.8)
Kentucky	49 (5.4)	35 (5.4)	26 (4.5)	20 (4.1)!	20 (4.3)!	32 (4.7)	34 (4.9)
Louisiana	40 (5.9)	35 (5.9)	28 (4.4)	30 (6.1)!	24 (4.8)!	33 (5.0)	34 (5.0)
Maine	38 (5.2)	30 (5.5)	21 (4.0)	21 (5.0)!	19 (5.9)!	30 (4.6)	29 (4.7)
Maryland	45 (4.9)	29 (4.7)	22 (4.0)	12 (4.3)!	19 (4.0)!	34 (4.2)	31 (3.9)
Massachusetts	48 (5.1)	30 (4.8)	24 (4.4)	13 (3.8)!	11 (3.0)!	35 (4.4)	35 (4.4)
Michigan	47 (6.3)	33 (5.5)	26 (4.5)	19 (5.0)!	26 (5.8)!	36 (5.4)	35 (5.0)
Minnesota	40 (5.0)	38 (5.2)	27 (4.9)	17 (5.8)!	29 (6.0)!	34 (4.5)	37 (5.4)
Mississippi	40 (5.8)	40 (5.4)	28 (4.4)	32 (5.4)	23 (4.8)!	33 (4.7)	35 (5.1)
Missouri	39 (5.8)	31 (5.0)	28 (4.2)	18 (3.8)!	20 (4.7)!	30 (4.7)	32 (4.6)
Nebraska	32 (5.4)	29 (5.7)!	22 (4.7)!	15 (6.0)!	15 (5.0)!	28 (4.8)	27 (5.0)
New Hampshire	37 (5.0)	24 (4.3)	22 (4.2)	13 (4.3)!	25 (5.1)!	28 (4.6)	29 (4.3)
New Jersey	43 (4.0)	26 (4.0)	20 (3.6)	15 (4.8)!	14 (3.4)!	32 (3.4)	29 (3.6)
New Mexico	44 (4.6)	32 (5.0)	22 (3.8)	17 (3.5)	21 (4.0)!	31 (4.0)	30 (4.1)
New York	41 (4.4)	31 (5.0)	20 (3.5)	13 (4.3)!	10 (2.4)!	29 (3.7)	30 (4.0)
North Carolina	43 (5.1)	33 (5.4)	25 (4.4)	30 (6.7)!	28 (5.1)	37 (5.0)	31 (4.7)
North Dakota	28 (4.0)«	28 (5.2)	20 (4.3)!<	10 (3.7)!	28 (6.4)!	26 (4.0)«	27 (4.2)
Ohio	44 (5.4)	31 (5.6)	31 (6.8)!	13 (3.4)!	18 (4.4)!	35 (5.4)	33 (5.2)
Oklahoma	39 (5.2)	33 (5.3)	26 (4.4)	20 (4.1)!	21 (4.9)!	32 (4.8)	31 (4.4)
Pennsylvania	47 (5.6)	32 (4.7)	29 (4.0)	24 (5.0)	25 (5.3)!	37 (4.6)	35 (4.7)
Rhode Island	42 (1.3)	25 (2.7)	24 (2.3)	16 (1.6)	14 (2.3)	30 (0.8)	31 (0.8)
South Carolina	43 (4.5)	34 (4.5)	25 (2.9)	19 (4.9)!	26 (4.6)	33 (4.0)	32 (3.4)
Tennessee	45 (5.6)	29 (4.2)	28 (4.5)	22 (3.6)	28 (4.7)	37 (4.9)	29 (3.8)
Texas	54 (5.0)	38 (4.5)	30 (4.9)	13 (3.2)!	19 (3.7)!	37 (4.2)	34 (4.3)
Utah	37 (4.2)	28 (4.3)	24 (4.4)	21 (4.6)!	26 (5.0)!	32 (3.8)	31 (4.2)
Virginia	48 (5.1)	29 (5.0)	18 (3.3)	17 (4.8)!	32 (5.8)!	33 (4.5)	34 (4.3)
West Virginia	38 (5.9)	40 (5.9)	28 (5.1)	20 (4.0)	26 (5.1)	32 (4.9)	32 (5.1)
Wisconsin	50 (6.0)	38 (5.2)	29 (6.2)!	25 (6.6)!	25 (6.1)!	39 (5.3)	39 (5.0)
Wyoming	30 (3.4)	32 (3.9)	23 (3.6)	25 (4.8)!	23 (3.4)	28 (3.3)	29 (3.2)
TERRITORIES							
Guam	12 (1.4)	11 (1.6)	17 (1.6)	11 (2.6)!	14 (1.2)	14 (0.6)	13 (0.7)
Virgin Islands	33 (2.2)	33 (3.5)	31 (1.4)	27 (2.6)	18 (1.3)«	29 (1.1)	27 (1.1)

TABLE 2.20 | Percentages of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	33 (5.9)	9 (2.9)!	13 (4.7)!	35(11.7)!	19(14.4)!	85(16.0)!	8 (8.8)!	5 (4.9)!	25 (5.4)!
Northeast	54(12.3)!	22(17.3)!	*** (***)	*** (***)	*** (***)	67(37.4)!	0 (0.0)	*** (***)	63(13.0)!
Southeast	15 (7.0)!	7 (3.4)!	*** (***)	*** (***)	*** (***)	*** (***)	*** (***)	0 (0.0)	15 (6.7)!
Central	41(14.6)!	3 (3.2)!	*** (***)	*** (***)	*** (***)	*** (***)	0 (0.0)	*** (***)	38(15.7)!
West	24(10.7)!	14 (9.4)!	10 (5.9)!	*** (***)	*** (***)	100 (0.0)!	14(16.4)!	0 (0.0)	5 (4.6)!
STATES									
Alabama	42 (5.3)	14 (3.2)!	20 (5.8)!	*** (***)	*** (***)	61(14.5)!	8 (7.7)!	16 (9.7)!	37 (6.8)!
Arizona	48 (3.5)	22 (5.9)!	17 (3.3)	*** (***)	8 (3.9)!	61(11.2)!	13(10.6)!	22(13.5)!	34 (4.9)
Arkansas	41 (4.5)	6 (2.1)!	20 (5.7)!	*** (***)	*** (***)	63(22.3)!	0 (0.0)	23 (7.3)!	39 (5.2)
California	49 (6.0)	17 (3.8)!	15 (2.7)	30 (6.0)!	*** (***)	74(13.8)!	6 (6.3)!	*** (***)	34 (5.8)
Colorado	39 (4.0)	6 (2.5)!	13 (2.8)!	*** (***)	*** (***)	77 (6.1)	0 (0.0)	22 (9.9)!	18 (4.8)!
Connecticut	38 (3.4)	6 (1.2)	8 (2.2)!	*** (***)	*** (***)	73 (7.0)	0 (0.0)	*** (***)	15 (4.5)!
Delaware	28 (0.6)	21 (1.7)	13 (2.9)!	*** (***)	*** (***)	100 (0.0)	*** (***)	7 (0.1)	22 (0.2)
Dist. Columbia	*** (***)	27 (0.7)	29 (3.5)	*** (***)	*** (***)	100 (0.0)	9 (0.1)	*** (***)	54 (0.5)
Florida	40 (4.4)	16 (3.5)!	27 (7.0)!	40 (8.0)!	*** (***)	81(11.4)!	0 (0.0)	0 (0.0)	37 (5.9)
Georgia	45 (5.0)	13 (3.2)!	20 (3.9)	*** (***)	*** (***)	100 (0.0)!	0 (0.0)	12 (8.1)!	29 (5.7)!
Hawaii	55 (2.3)	*** (***)	40 (2.7)	43 (0.8)	*** (***)	100 (0.0)	14 (0.7)	*** (***)	47 (0.4)
Idaho	38 (1.0)	*** (***)	27 (4.8)!	*** (***)	19 (5.9)!	*** (***)	*** (***)	20 (4.9)!	43 (1.3)
Indiana	37 (5.6)	4 (2.1)!	24 (6.9)!	*** (***)	*** (***)	52(13.4)!	0 (0.0)	32(13.3)!	39 (7.1)!
Iowa	30 (5.0)	*** (***)	16 (4.5)!	*** (***)	*** (***)	80 (8.5)!	0 (0.0)	28 (7.8)!	28 (6.5)!
Kentucky	33 (4.7)	23 (6.7)!	14 (4.9)!	*** (***)	*** (***)	81(13.1)!	10 (9.9)!	10 (4.5)!	43 (7.0)
Louisiana	44 (5.5)	18 (3.5)	30 (6.2)!	*** (***)	*** (***)	84(12.5)!	11 (7.4)!	14 (8.7)!	41 (7.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	41 (5.0)	13 (3.0)!	23 (4.4)	69 (7.5)!	*** (***)	74(10.1)!	0 (0.0)	0 (0.0)	24 (6.7)!
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	36 (5.0)	9 (2.5)!	19 (5.5)!	*** (***)	*** (***)	78(11.5)!	0 (0.0)	24(11.6)!	26 (5.9)!
Minnesota	33 (4.4)	11 (4.8)!	26 (7.3)!	31 (6.7)!	*** (***)	35 (8.6)!	*** (***)	21 (8.0)!	40 (7.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	35 (3.6)	4 2.2)!	21 (6.0)!	*** (***)	*** (***)	64 (1.3)	*** (***)	38 (9.1)!	21 (3.1)
New Hampshire	31 (1.1)	*** (***)	26 (6.2)!	*** (***)	*** (***)	31 (4.3)	*** (***)	61(12.9)	31 (1.1)
New Jersey	40 (5.1)	8 (2.5)!	9 (1.7)	59 (7.7)	*** (***)	71(12.9)	0 (0.0)	*** (***)	20 (5.7)!
New Mexico	54 (1.8)	*** (***)	24 (1.5)	*** (***)	17 (1.7)	100 (0.0)	35 (1.1)	25 (3.2)	34 (0.7)
New York	43 (4.9)	2 (0.7)!	5 (2.0)!	44(14.5)!	*** (***)	68(14.8)!	0 (0.0)	100 (0.0)!	35 (6.5)
North Carolina	40 (4.9)	22 (3.9)	16 (4.5)!	*** (***)	8 (4.3)!	75(20.2)!	52(29.9)!	21 (9.4)!	32 (5.1)
North Dakota	45 (3.1)	*** (***)	36 (8.1)!	*** (***)	6 (2.5)!	26 (0.9)	*** (***)	43 (6.2)!	49 (3.0)
Ohio	37 (4.6)	7 (2.5)!	16 (5.4)!	*** (***)	*** (***)	91 (7.8)!	7 (7.4)!	27 (9.0)!	26 (5.0)
Oklahoma	38 (4.3)	17 (5.6)!	25 (6.7)!	*** (***)	16 (4.0)!	100 (0.0)!	9 (8.1)!	20 (8.6)!	30 (5.7)!
Pennsylvania	36 (5.1)	11 (6.2)!	14 (5.2)!	*** (***)	*** (***)	91 (9.2)!	0 (0.0)	15(12.4)!	29 (6.6)!
Rhode Island	33 (0.8)	8 (2.2)!	12 (1.8)	*** (***)	*** (***)	88 (0.2)	0 (0.0)	*** (***)	19 (0.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	46 (5.4)	21 (5.9)!	19 (4.0)!	*** (***)	*** (***)	93 (7.0)!	10 (6.5)!	46(18.8)!	25 (5.9)!
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	42 (4.5)	11 (2.3)	36 (4.9)	68 (5.7)	*** (***)	72 (8.4)!	0 (0.0)	9 (9.4)!	29 (5.3)
West Virginia	35 (5.2)	25 (7.3)!	28 (5.6)!	*** (***)	*** (***)	*** (***)	38(14.4)!	23 (9.1)!	37 (5.9)
Wisconsin	37 (4.9)	3 (2.6)!	24 (5.2)!	*** (***)	*** (***)	65(22.0)!	0 (0.0)	40(12.6)!	35 (5.8)
Wyoming	24 (0.8)	*** (***)	17 (2.6)	*** (***)	15 (2.9)	*** (***)	*** (***)	37 (3.7)	24 (0.7)
TERRITORIES									
Guam	31 (4.1)	*** (***)	9 (1.6)	15 (0.4)	*** (***)	*** (***)	*** (***)	0 (0.0)	21 (0.2)
Virgin Islands	*** (***)	32 (0.6)	16 (1.9)	*** (***)	*** (***)	*** (***)	*** (***)	0 (0.0)	36 (0.2)

(xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.20 | Percentages of Students Within Selected Demographic Subgroups in the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990						
	Percentage of Students by Parents' Highest Level of Education					Percentage of Students by Gender	
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Male	Female
NATION	40 (6.2)	28 (5.7)!	18 (4.6)!	11 (2.6)!	15 (4.0)!	27 (4.9)	27 (4.9)
Northeast	66(11.7)!	48(13.5)!	27 (9.2)!	*** (***)	*** (***)	49(12.0)!	50(12.4)!
Southeast	28(11.3)!	9 (4.6)!	6 (2.9)!	4 (3.2)!	3 (2.1)!	11 (5.3)!	15 (6.9)!
Central	36(12.2)!	40(14.6)!	33(13.5)!	*** (***)	*** (***)	36(12.3)!	34(12.2)!
West	31(12.3)!	21 (9.9)!	6 (3.3)!	5 (2.8)!	12 (6.8)!	21 (9.5)!	17 (7.8)!
STATES							
Alabama	40 (4.7)	36 (4.8)	29 (4.7)	26 (5.6)!	22 (5.2)!	34 (4.4)	32 (4.2)
Arizona	48 (4.0)	37 (3.7)	26 (3.2)	18 (4.6)!	24 (3.9)	34 (3.3)	37 (3.4)
Arkansas	38 (4.2)	39 (4.9)	27 (3.6)	31 (4.8)	20 (3.7)	34 (4.1)	31 (3.6)
California	46 (5.7)	34 (5.4)	26 (4.4)	13 (2.6)!	18 (2.7)	33 (4.2)	32 (4.3)
Colorado	44 (4.3)	29 (4.1)	19 (3.4)	14 (3.2)!	23 (4.0)	32 (3.6)	33 (3.6)
Connecticut	49 (3.5)	24 (3.1)	14 (2.3)	9 (2.8)!	14 (3.3)!	32 (3.0)	31 (2.8)
Delaware	38 (1.0)	25 (2.2)	17 (1.3)	10 (3.7)!	16 (3.2)!	27 (1.1)	25 (1.2)
Dist. Columbia	42 (1.7)	33 (2.4)	18 (1.4)	16 (2.8)	24 (3.1)	28 (0.9)	30 (0.7)
Florida	45 (4.8)	36 (4.2)	27 (3.7)	13 (3.6)!	22 (4.1)	34 (4.0)	33 (4.0)
Georgia	45 (5.2)	35 (4.5)	25 (3.9)	19 (4.3)!	23 (4.5)	33 (4.1)	33 (4.0)
Hawaii	52 (1.4)	52 (1.9)	34 (1.7)	34 (4.1)	41 (2.8)	44 (1.0)	45 (1.1)
Idaho	43 (1.4)	36 (2.2)	29 (2.4)	28 (4.4)	27 (4.6)!	39 (1.4)	34 (1.5)
Indiana	38 (6.0)	36 (6.0)	33 (5.5)	25 (5.9)!	17 (4.9)!	35 (5.6)	33 (5.0)
Iowa	33 (5.6)	25 (5.0)	27 (4.8)	17 (4.8)!	26 (6.0)!	29 (5.0)	29 (4.9)
Kentucky	48 (5.6)	35 (5.2)	25 (4.3)	20 (4.1)	23 (5.3)!	31 (4.5)	32 (4.7)
Louisiana	42 (4.6)	38 (5.2)	29 (4.1)	23 (4.0)	29 (5.1)	32 (4.0)	34 (4.4)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	49 (4.6)	29 (4.7)	15 (3.1)	15 (3.5)!	25 (4.9)	33 (4.1)	32 (4.0)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	43 (5.1)	28 (4.7)	22 (4.3)	18 (4.5)!	23 (5.0)!	32 (4.4)	32 (4.5)
Minnesota	40 (4.6)	32 (5.2)	25 (4.1)	27 (5.3)!	24 (4.6)!	33 (4.3)	32 (4.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	39 (3.4)	34 (3.3)	29 (4.8)	17 (4.1)!	19 (3.3)	33 (3.6)	34 (3.5)
New Hampshire	40 (1.4)	29 (2.4)	21 (1.5)	7 (2.4)!	26 (4.8)	30 (1.4)	32 (1.3)
New Jersey	47 (5.0)	26 (4.3)	19 (3.4)	7 (2.4)!	17 (3.2)	32 (4.0)	31 (4.0)
New Mexico	49 (1.6)	38 (2.1)	28 (1.9)	21 (3.1)	27 (3.1)	39 (1.2)	33 (1.3)
New York	38 (4.1)	31 (5.1)	26 (3.6)	14 (3.8)!	14 (2.7)	29 (3.8)	30 (3.5)
North Carolina	42 (5.1)	30 (4.3)	29 (4.3)	22 (4.1)	28 (5.7)!	33 (4.4)	32 (4.2)
North Dakota	48 (2.7)	41 (4.1)	37 (4.5)	29 (7.0)!	30 (5.6)!	44 (3.4)	41 (3.5)
Ohio	45 (5.3)	32 (4.3)	27 (4.4)	17 (4.4)!	14 (3.8)!	33 (4.3)	33 (4.2)
Oklahoma	45 (4.9)	29 (4.3)	26 (3.7)	17 (3.6)!	23 (6.1)!	33 (4.0)	34 (4.2)
Pennsylvania	48 (5.7)	31 (5.4)	21 (4.2)	16 (4.6)!	20 (5.2)!	33 (4.8)	32 (4.9)
Rhode Island	45 (1.4)	34 (2.3)	18 (1.8)	12 (2.1)	13 (1.9)	30 (0.9)	30 (1.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	48 (5.4)	38 (5.4)	25 (4.4)	18 (3.9)!	22 (4.1)	35 (4.7)	33 (4.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	53 (4.3)	32 (4.3)	22 (3.3)	16 (3.2)	23 (4.5)!	36 (3.6)	36 (4.0)
West Virginia	47 (6.2)	40 (6.2)	29 (4.8)	21 (4.4)	29 (5.7)!	34 (5.0)	36 (5.3)
Wisconsin	40 (5.6)	34 (4.9)	31 (4.6)	20 (3.7)	27 (6.0)!	34 (4.8)	33 (4.5)
Wyoming	26 (1.2)	22 (1.7)	21 (2.1)	15 (3.1)!	16 (2.9)!	23 (0.9)	22 (1.1)
TERRITORIES							
Guam	15 (2.6)	17 (1.7)	15 (0.8)	12 (2.3)	18 (1.7)	15 (1.2)	15 (1.5)
Virgin Islands	29 (2.5)	31 (2.8)	36 (2.4)	21 (2.8)	26 (1.9)	30 (1.1)	28 (1.0)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE 2.21 | Percentages of Students Within Selected Demographic Subgroups in the Bottom One-Third of the Schools

PUBLIC SCHOOLS	Grade 4 - 1992								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	11 (1.2)	62 (5.2)	48 (4.0)	12 (3.6)!	26 (6.0)!	3 (2.9)!	78 (8.5)	22 (8.6)!	17 (2.2)
Northeast	9 (2.3)!	67 (9.1)!	61(11.1)!	*** (***)	*** (***)	0 (0.0)	46(14.2)!	*** (***)	27 (6.1)!
Southeast	26 (3.7)	60 (8.9)!	51 (5.3)	*** (***)	*** (***)	0 (0.0)	89 (9.5)!	60(12.0)!	24 (5.3)!
Central	3 (1.4)!	61(13.7)!	34 (9.0)!	*** (***)	*** (***)	19(21.2)!	94 (8.0)!	0 (0.0)	3 (1.7)!
West	8 (1.5)	60 (9.3)!	47 (5.7)	10 (4.9)!	*** (***)	0 (0.0)	100 (0.0)!	6 (6.1)!	19 (4.0)!
STATES									
Alabama	15 (4.0)!	67 (5.4)	30 (7.4)!	*** (***)	*** (***)	0 (0.0)	73(12.4)!	15(10.9)!	31 (6.1)!
Arizona	18 (3.3)	49 (8.9)!	55 (5.1)	*** (***)	71 (6.6)!	0 (0.0)	36(15.2)!	54(19.0)!	42 (6.0)
Arkansas	20 (3.4)	69 (5.5)	41 (6.4)	*** (***)	22 (6.0)!	*** (***)	93 (6.8)!	37 (8.8)!	25 (5.3)!
California	12 (3.0)!	55 (6.6)	53 (5.2)	24 (4.5)	28 (8.6)!	0 (0.0)	77 (8.9)	*** (***)	21 (5.5)!
Colorado	22 (2.8)	57 (8.4)!	53 (5.1)	29 (7.9)!	45 (6.8)!	0 (0.0)	75(10.5)!	41(12.5)!	30 (5.0)
Connecticut	17 (3.0)	77 (5.4)	70 (5.0)	*** (***)	*** (***)	8 (7.9)!	97 (3.4)!	*** (***)	15 (4.3)!
Delaware	38 (1.1)	46 (2.1)	45 (2.5)	*** (***)	*** (***)	50 (0.8)	100 (0.0)	43 (0.4)	26 (0.3)
Dist. Columbia	5 (2.2)!	40 (0.5)	43 (2.0)	*** (***)	*** (***)	0 (0.0)	47 (0.4)	*** (***)	27 (0.6)
Florida	18 (3.5)	64 (5.9)	46 (5.8)	*** (***)	*** (***)	0 (0.0)	82 (7.9)	75(26.1)!	24 (5.4)!
Georgia	18 (3.0)	64 (4.8)	45 (5.7)	*** (***)	*** (***)	0 (0.0)	87 (9.0)!	20(11.4)!	33 (5.5)!
Hawaii	27 (5.4)!	27 (6.0)!	43 (6.2)	36 (4.9)	*** (***)	0 (0.0)	89(11.2)!	61(26.2)!	34 (6.3)!
Idaho	31 (5.0)	*** (***)	51 (6.8)	*** (***)	45 (8.0)!	0 (0.0)	*** (***)	38 (8.8)!	32 (7.1)!
Indiana	27 (4.5)	77 (7.0)!	38 (7.3)!	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	30(10.6)!	29 (5.6)!
Iowa	33 (4.1)	59(10.4)!	36 (6.4)	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	32 (6.9)!	30 (7.3)!
Kentucky	31 (3.4)	40 (9.2)!	33 (7.1)!	*** (***)	*** (***)	0 (0.0)	60(15.4)!	30 (8.1)!	33 (5.4)
Louisiana	14 (3.2)!	57 (5.5)	29 (7.6)!	*** (***)	*** (***)	0 (0.0)	65(10.0)	25(15.0)!	28 (5.7)!
Maine	34 (5.6)	*** (***)	39 (8.4)!	*** (***)	*** (***)	*** (***)	*** (***)	44(14.7)!	32 (6.9)!
Maryland	17 (3.2)	70 (4.7)	43 (6.7)!	22 (5.6)!	*** (***)	7 (7.4)!	77(13.1)!	0 (0.0)	39 (5.4)
Massachusetts	19 (3.4)	74 (6.2)	55 (6.1)	49 (9.6)!	*** (***)	0 (0.0)	91 (6.1)	*** (***)	16 (4.7)!
Michigan	22 (4.5)!	88 (3.9)	47 (6.9)	*** (***)	33 (6.6)	0 (0.0)	94 (5.8)!	29(18.7)!	20 (5.2)!
Minnesota	35 (4.7)	75 (7.2)!	56 (6.3)	*** (***)	*** (***)	0 (0.0)	*** (***)	43(10.4)!	40 (8.3)!
Mississippi	10 (2.4)!	55 (4.8)	55 (7.4)!	*** (***)	*** (***)	*** (***)	93 (6.3)!	12 (8.3)!	35 (3.9)
Missouri	23 (4.1)	76 (3.8)	35 (6.6)!	*** (***)	*** (***)	11(11.3)!	94 (6.4)!	24 (8.2)!	29 (6.6)!
Nebraska	27 (4.3)	82 (4.7)	45 (9.1)!	*** (***)	*** (***)	0 (0.0)	85(15.3)!	27 (9.7)!	38 (6.8)!
New Hampshire	32 (4.6)	*** (***)	34 (6.9)!	*** (***)	*** (***)	14(12.6)!	*** (***)	37(16.9)!	34 (5.5)
New Jersey	14 (2.8)!	80 (6.2)	65 (4.8)	21 (7.0)!	*** (***)	0 (0.0)	87 (8.8)!	*** (***)	28 (5.3)!
New Mexico	20 (4.8)!	33 (8.8)!	50 (6.1)	*** (***)	27(12.7)!	0 (0.0)	57(17.7)!	44(40.7)!	37 (6.3)
New York	16 (4.1)!	83 (4.9)	71 (5.7)	18 (7.0)!	*** (***)	0 (0.0)	87 (8.7)!	*** (***)	28 (7.6)!
North Carolina	24 (4.1)	49 (6.1)	46 (8.7)!	*** (***)	63(16.2)!	0 (0.0)	83(18.5)!	37(11.3)!	35 (5.9)
North Dakota	32 (3.9)	*** (***)	37 (9.0)!	*** (***)	68 (8.6)!	5 (5.4)!	*** (***)	39 (5.8)!	36 (6.1)
Ohio	24 (3.5)	66 (7.8)	39 (7.2)!	*** (***)	29 (7.8)!	0 (0.0)	85 (8.8)	19(10.2)!	20 (5.2)!
Oklahoma	23 (3.7)	64 (7.4)	35 (7.0)!	*** (***)	40 (5.3)	0 (0.0)	52(15.1)!	20 (8.0)!	26 (5.7)!
Pennsylvania	20 (4.0)	80 (4.4)	56 (6.1)	*** (***)	*** (***)	8 (9.2)!	86 (9.3)	0 (0.0)	27 (5.8)!
Rhode Island	21 (3.7)	71 (8.6)	67 (5.3)	86 (4.0)	*** (***)	0 (0.0)	90 (7.1)!	*** (***)	17 (4.8)!
South Carolina	15 (3.4)!	53 (5.2)	33 (6.6)!	*** (***)	*** (***)	0 (0.0)	91(11.1)!	29(12.4)!	30 (4.5)
Tennessee	22 (3.9)	64 (6.6)	43 (9.5)!	*** (***)	*** (***)	0 (0.0)	95 (5.5)!	41(16.0)!	22 (5.4)!
Texas	19 (4.1)!	56 (7.0)!	42 (5.8)	27 (6.7)!	*** (***)	0 (0.0)	58(11.8)!	15(12.3)!	39 (7.1)!
Utah	32 (4.5)	*** (***)	56 (6.7)	*** (***)	*** (***)	6 (5.5)!	100 (0.0)!	38(19.6)!	35 (6.8)!
Virginia	26 (3.5)	60 (5.2)	34 (7.1)!	19 (5.9)!	*** (***)	0 (0.0)	83 (8.8)!	54(10.7)!	32 (6.5)!
West Virginia	33 (4.1)	41(12.4)!	25 (7.1)!	*** (***)	*** (***)	*** (***)	53(17.1)!	30(12.5)!	34 (4.7)
Wisconsin	27 (4.3)	69 (8.0)!	41 (7.7)!	*** (***)	70(17.3)!	0 (0.0)	100 (0.0)!	27 (9.5)!	28 (6.2)!
Wyoming	34 (5.0)	*** (***)	44 (6.6)	*** (***)	63(10.5)!	21(21.6)!	100 (0.0)!	22 (9.0)!	36 (6.7)!
TERRITORY									
Guam	24 (2.7)	33 (5.6)!	45 (2.1)	37 (0.8)	*** (***)	*** (***)	*** (***)	80 (0.3)	19 (0.3)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***The number of schools or students was considered insufficient for this analysis. Underlying subgroup population proportions provided in previous tables should be considered in interpreting these results. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 2.21 | Percentages of Students Within Selected Demographic Subgroups in the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 4 - 1992						
	Percentage of Students by Parents' Highest Level of Education					Percentage of Students by Gender	
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Male	Female
NATION	17 (1.6)	24 (2.5)	26 (2.4)	37 (3.7)	26 (2.1)	23 (1.7)	23 (1.8)
Northeast	18 (3.5)!	31 (9.4)!	26 (5.5)!	*** (***)	28 (4.8)!	24 (3.9)!	24 (4.4)!
Southeast	29 (4.8)	38 (4.3)	44 (6.4)	52 (6.5)	42 (5.1)	39 (4.4)	37 (4.6)
Central	10 (2.7)!	12 (4.4)!	11 (3.9)!	*** (***)	12 (3.8)!	11 (3.0)!	12 (3.7)!
West	15 (2.4)	20 (3.8)!	18 (3.8)!	34 (6.5)!	25 (3.5)	21 (2.9)	20 (2.6)
STATES							
Alabama	33 (4.6)	27 (4.7)	32 (5.4)	31 (6.4)!	34 (5.0)	32 (4.7)	33 (4.4)
Arizona	30 (4.0)	24 (4.0)	37 (5.0)	54 (6.0)	38 (3.9)	36 (4.0)	34 (3.7)
Arkansas	31 (4.1)	27 (4.3)	32 (4.0)	33 (5.0)	33 (4.4)	31 (3.7)	33 (3.9)
California	20 (3.4)	28 (4.7)	34 (5.9)	57 (6.6)	37 (4.6)	31 (4.2)	31 (3.9)
Colorado	22 (2.8)	29 (5.2)	44 (4.5)	55 (5.5)	37 (4.0)	32 (3.7)	31 (3.2)
Connecticut	19 (2.8)	28 (4.4)	39 (4.7)	54 (6.4)	39 (4.0)	31 (3.3)	30 (3.4)
Delaware	33 (1.3)	42 (3.9)	42 (3.0)	59 (5.5)	45 (1.3)	42 (1.1)	38 (1.0)
Dist. Columbia	36 (1.2)	31 (3.4)	43 (2.5)	49 (5.2)	38 (1.3)	39 (1.0)	37 (0.8)
Florida	29 (4.2)	29 (5.1)	42 (5.1)	43 (6.7)	35 (4.1)	33 (4.2)	34 (4.0)
Georgia	33 (3.4)	33 (4.3)	42 (4.7)	36 (5.7)	36 (4.2)	36 (3.5)	36 (3.6)
Hawaii	31 (4.4)	28 (5.5)!	40 (4.9)	57 (8.5)!	35 (5.2)	34 (4.7)	34 (4.6)
Idaho	28 (4.9)	30 (6.4)!	44 (6.4)	56 (8.3)!	35 (5.3)	34 (5.3)	34 (5.3)
Indiana	29 (4.3)	27 (5.6)!	35 (5.6)	43 (7.2)	35 (5.2)	33 (4.8)	33 (4.6)
Iowa	28 (4.1)	32 (5.0)	39 (4.7)	56 (7.0)	36 (4.6)	33 (4.3)	34 (4.2)
Kentucky	24 (4.0)	35 (5.2)	32 (3.7)	43 (5.2)	34 (3.7)	31 (3.6)	33 (3.7)
Louisiana	29 (3.9)	25 (4.1)	42 (5.7)	38 (6.1)	33 (4.9)	32 (4.3)	34 (4.2)
Maine	26 (5.3)	30 (6.2)	42 (6.4)	49 (9.5)!	37 (6.3)	33 (5.8)	35 (5.7)
Maryland	31 (3.5)	29 (4.8)!	42 (5.3)	44 (7.7)!	38 (4.2)	33 (3.5)	36 (3.9)
Massachusetts	18 (2.8)	19 (4.7)!	33 (4.8)	60 (7.2)!	39 (5.3)	27 (3.7)	28 (4.2)
Michigan	27 (3.9)	30 (5.6)	41 (6.4)	40 (8.1)!	38 (5.2)	33 (4.5)	34 (4.6)
Minnesota	32 (4.5)	38 (5.8)	43 (5.6)	*** (***)	41 (5.1)	38 (4.8)	38 (4.7)
Mississippi	33 (4.0)	35 (5.1)	38 (4.7)	42 (5.4)	38 (3.6)	36 (3.3)	36 (3.6)
Missouri	25 (3.2)	32 (4.5)	36 (5.1)	45 (8.6)!	35 (4.9)	32 (4.0)	31 (4.0)
Nebraska	25 (4.1)	28 (5.4)!	31 (6.0)!	*** (***)	42 (5.0)	32 (4.5)	33 (4.6)
New Hampshire	26 (4.3)	34 (6.0)	38 (5.6)	45 (8.1)!	37 (5.1)	32 (4.6)	33 (4.8)
New Jersey	20 (2.7)	30 (4.9)	39 (4.5)	57 (7.6)!	42 (4.1)	30 (3.2)	32 (3.4)
New Mexico	24 (4.6)	24 (4.8)	42 (6.6)!	53 (7.6)!	40 (5.9)	37 (5.5)	33 (5.3)
New York	27 (4.4)	28 (4.8)	38 (7.4)!	51 (7.5)!	47 (5.6)	36 (4.8)	38 (4.6)
North Carolina	29 (4.5)	28 (5.4)!	39 (5.3)	36 (6.4)!	38 (5.0)	35 (4.7)	33 (4.6)
North Dakota	30 (3.9)	32 (6.5)!	33 (5.3)	*** (***)	37 (4.6)	33 (4.0)	34 (4.1)
Ohio	21 (2.8)	25 (3.9)	35 (5.0)	47 (7.5)!	34 (4.1)	28 (3.5)	31 (3.8)
Oklahoma	24 (3.7)	24 (4.5)	35 (4.4)	37 (6.7)!	33 (4.4)	28 (3.6)	31 (4.1)
Pennsylvania	26 (3.7)	28 (5.7)!	31 (4.8)	38 (5.8)	35 (4.7)	30 (4.3)	31 (3.6)
Rhode Island	19 (3.0)	27 (4.6)	35 (5.6)	45 (7.2)	42 (5.1)	33 (4.1)	31 (4.4)
South Carolina	26 (3.4)	25 (3.5)	35 (4.3)	31 (6.1)!	34 (4.7)	31 (4.0)	30 (3.7)
Tennessee	30 (4.6)	35 (5.6)	37 (5.6)	34 (6.0)	33 (4.4)	34 (4.4)	32 (4.5)
Texas	27 (3.9)	21 (4.6)!	37 (5.5)	45 (5.8)	36 (4.3)	33 (4.0)	32 (3.8)
Utah	27 (4.2)	35 (5.8)	45 (7.0)	65 (8.8)!	38 (5.3)	37 (5.0)	32 (4.7)
Virginia	27 (3.4)	32 (4.5)	49 (5.2)	51 (5.9)	35 (4.0)	35 (3.9)	33 (3.5)
West Virginia	24 (3.7)	26 (4.2)	40 (4.9)	44 (5.3)	35 (4.7)	33 (4.3)	33 (4.0)
Wisconsin	30 (4.6)	26 (5.2)	30 (4.9)	42 (7.0)	36 (4.8)	32 (4.6)	32 (4.4)
Wyoming	32 (5.2)	35 (5.9)	44 (5.4)	50 (6.6)	38 (5.5)	35 (4.8)	38 (5.3)
TERRITORY							
Guam	38 (1.4)	30 (4.1)	41 (2.9)	43 (5.2)	36 (1.0)	36 (1.2)	39 (1.3)

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TABLE 2.21 | Percentages of Students Within Selected Demographic Subgroups in the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1992								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	11 (2.0)	68 (3.8)	49 (5.1)	20 (7.6)!	16 (4.5)!	0 (0.0)	83 (6.4)	17(10.8)!	21 (2.7)
Northeast	12 (3.2)!	74 (4.8)	65 (8.4)!	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	*** (***)	25 (5.4)!
Southeast	24 (7.0)!	67 (6.8)	56 (9.9)!	*** (***)	*** (***)	0 (0.0)	74(13.9)!	37(27.3)!	35 (7.4)!
Central	4 (1.0)!	72 (8.3)!	25(13.3)!	*** (***)	*** (***)	0 (0.0)	84(17.8)!	0 (0.0)	9 (2.8)!
West	7 (3.1)!	55 (9.4)!	47 (7.1)!	19(12.6)!	*** (***)	0 (0.0)	72(11.6)!	9 (9.1)!	17 (4.0)!
STATES									
Alabama	20 (4.3)!	65 (6.1)	58 (8.7)!	*** (***)	*** (***)	0 (0.0)	71(14.3)!	6 (5.9)! «	34 (5.7)
Arizona	18 (3.0)	42 (6.9)!	55 (6.0)	*** (***)	52(14.9)!	0 (0.0)	68(14.3)!	34(24.0)!	32 (5.7)
Arkansas	22 (3.5)	67 (6.0)	56 (6.0)	*** (***)	*** (***)	*** (***)	80(20.2)!	11 (8.5)! <	36 (4.7)
California	14 (3.6)!	54(13.0)!	56 (5.1)	25 (6.0)!	*** (***)	0 (0.0)	79 (9.8)!	*** (***)	18 (4.6)!
Colorado	27 (4.0)	73 (7.8)!	56 (5.3)	*** (***)	*** (***)	5 (5.4)!	83(10.6)!	13 (9.9)!	39 (5.8)
Connecticut	23 (3.3)	79 (3.6)	72 (4.7)	31 (9.8)!	*** (***)	24(13.8)!	92 (6.6)	*** (***)	25 (4.9)!
Delaware	40 (0.8)	44 (2.0)	38 (4.5) <	*** (***)	*** (***)	*** (***)	*** (***)	17 (0.6) «	46 (0.3) »
Dist. Columbia	*** (***)	40 (0.6)	32 (3.5) <	*** (***)	*** (***)	0 (0.0)	47 (0.6) «	*** (***)	0 (0.0)
Florida	19 (3.1)	56 (6.3)	51 (7.3)!	*** (***)	*** (***)	0 (0.0)	54(14.5)!	60(20.8)!	30 (5.6)!
Georgia	22 (3.8)	53 (4.9)	43 (6.9)	*** (***)	*** (***)	18(14.2)!	52(14.8)!	86(14.7)!	30 (4.9)
Hawaii	22 (2.2)	*** (***)	35 (2.8)	33 (0.8)	*** (***)	0 (0.0)	100 (0.0)	*** (***)	20 (0.3) «
Idaho	32 (3.4)	*** (***)	54 (5.9) >	*** (***)	43 (9.6)!	0 (0.0)	50(24.0)!	26 (9.5)! <	36 (4.0) >
Indiana	27 (3.8)	77 (6.1)	51 (7.3)!	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	30(15.1)!	23 (5.2)!
Iowa	32 (4.5)	*** (***)	48 (7.6)	*** (***)	*** (***)	0 (0.0)	70(30.1)	19 (6.8)!	38 (7.7)!
Kentucky	34 (4.7)	51 (7.5)!	53 (7.1)	*** (***)	*** (***)	0 (0.0)	75(13.0)!	16(10.9)!	35 (6.0)
Louisiana	15 (3.1)!	54 (5.9)	48 (9.7)!	*** (***)	*** (***)	*** (***)	89 (7.8) >	0 (0.0)	24 (5.2)!
Maine	37 (4.7)	*** (***)	*** (***)	*** (***)	47 (9.1)!	*** (***)	*** (***)	23 (7.4)!	42 (6.1)
Maryland	17 (3.7)!	70 (4.2)	35 (4.6)	12 (4.0)!	*** (***)	7 (6.2)!	77(16.1)!	*** (***)	28 (6.4)!
Massachusetts	26 (3.4)	77 (5.8)!	76 (6.7)!	*** (***)	*** (***)	0 (0.0)	93 (6.7)	*** (***)	16 (5.0)!
Michigan	18 (3.8)!	88 (3.7)	53 (8.2)!	*** (***)	*** (***)	19(14.6)!	95 (5.1)	24(13.7)!	20 (4.3)!
Minnesota	32 (5.5)	*** (***)	49 (8.1)!	*** (***)	*** (***)	0 (0.0)	*** (***)	33(12.0)! <	33 (7.6)! >
Mississippi	12 (3.0)!	55 (3.5)	56 (6.2)	*** (***)	*** (***)	*** (***)	73(16.2)!	26(13.5)!	34 (4.3)
Missouri	29 (4.9)	65 (7.7)!	49 (6.8)	*** (***)	*** (***)	15(13.0)!	73 (9.2)!	48(13.5)!	29 (6.1)!
Nebraska	35 (4.6)	81 (6.7)!	59 (7.4)!	*** (***)	*** (***)	*** (***)	100 (0.0)	25 (8.9)! <	44 (6.7) <
New Hampshire	35 (4.0)	*** (***)	41 (7.4)!	*** (***)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	42 (4.7) >
New Jersey	15 (4.6)!	76 (6.6)	70 (5.8)	17 (5.3)!	*** (***)	0 (0.0)	95 (4.6)	*** (***)	16 (4.5)!
New Mexico	18 (2.8)	*** (***)	40 (4.2)	*** (***)	16 (6.4)! «	0 (0.0)	35(24.0)!	23(25.8)!	24 (3.9)
New York	20 (5.0)!	82 (7.8)	71 (7.2)!	39 (9.8)!	*** (***)	0 (0.0)	94 (5.4)!	16(12.7)!	35 (7.5)!
North Carolina	25 (4.7)	52 (6.5)	34 (7.3)	*** (***)	*** (***)	0 (0.0)	75(17.4)!	46(15.5)!	34 (6.3)!
North Dakota	36 (4.3) >	*** (***)	*** (***)	*** (***)	73 (9.6)!	0 (0.0)	*** (***)	30 (7.0)! <	52 (5.8) »
Ohio	22 (4.1)	81 (4.3)	45 (8.0)!	*** (***)	*** (***)	0 (0.0)	81 (9.1)!	0 (0.0)	29 (6.6)!
Oklahoma	31 (4.9)	65 (8.4)!	43 (6.7)	*** (***)	40 (8.8)!	*** (***)	0 (0.0)	49(15.2)!	31 (5.4)!
Pennsylvania	26 (4.1)	77 (8.1)	59 (8.7)!	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	30(15.0)!	17 (4.3)! <
Rhode Island	25 (0.4) «	64 (5.0) <	65 (2.4) <	43 (6.3)!	*** (***)	0 (0.0)	78 (0.3)	*** (***)	25 (0.2) «
South Carolina	20 (3.3)	53 (5.0)	47 (6.7)	*** (***)	*** (***)	0 (0.0)	85(16.1)!	0 (0.0)	34 (4.1)
Tennessee	24 (4.2)	64 (8.1)	48 (7.5)	*** (***)	*** (***)	0 (0.0)	78(22.8)!	21(22.3)!	31 (5.4)
Texas	15 (3.3)!	47 (9.6)!	56 (6.1)	16 (5.8)!	*** (***)	0 (0.0)	69(13.1)!	22(24.2)!	30 (5.9)!
Utah	34 (4.3)	*** (***)	45 (6.8)!	*** (***)	*** (***)	8 (8.0)!	65(19.6)!	44(17.7)!	36 (5.3)
Virginia	27 (3.8)	59 (6.3)	34 (7.4)!	15 (5.6)!	*** (***)	0 (0.0)	75(13.2)!	60(18.9)!	31 (5.3)
West Virginia	32 (4.9)	43(11.0)!	49 (8.5)!	*** (***)	*** (***)	*** (***)	50(14.1)!	41(15.0)!	31 (5.6)
Wisconsin	26 (4.2)	71(11.6)!	60 (8.5)!	*** (***)	64(15.9)!	11(15.0)!	100 (0.0)!	14 (8.3)!	35 (6.4)
Wyoming	27 (3.6)	*** (***)	40 (4.6)	*** (***)	65(11.3)!	*** (***)	61(12.4)!	17 (8.3)! <	20 (4.5)! <
TERRITORIES									
Guam	34 (5.9)!	*** (***)	53 (3.1)	45 (0.8)	*** (***)	*** (***)	*** (***)	100 (0.0)	33 (0.2) «
Virgin Islands	*** (***)	48 (0.7) >	69 (2.2) >	*** (***)	*** (***)	*** (***)	*** (***)	100 (0.0)	66 (0.3) »

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 2.21 | Percentages of Students Within Selected Demographic Subgroups in the Bottom One-Third of the Schools (continued)

	Grade 8 - 1992						
	Percentage of Students by Parents' Highest Level of Education					Percentage of Students by Gender	
PUBLIC SCHOOLS	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Male	Female
NATION	16 (1.6)	22 (2.0)	30 (2.8)	39 (5.3)	39 (3.1)	25 (2.0)	24 (1.9)
Northeast	20 (3.5)	29 (4.5)	27 (5.5)	53 (9.0)!	48 (5.6)	30 (4.0)	28 (4.1)
Southeast	28 (4.6)	34 (5.5)	48 (7.0)	35(12.6)!	45 (6.0)!	38 (6.0)	36 (5.3)
Central	9 (2.3)!	14 (3.0)!	17 (4.2)!	*** (***)	23 (5.2)!	15 (2.7)	12 (2.8)!
West	10 (2.7)!	15 (3.4)!	26 (5.8)!	40 (6.2)!	37 (6.3)	19 (3.9)!	20 (3.6)
STATES							
Alabama	31 (5.1)	34 (5.1)	39 (5.1)	39 (6.4)!	44 (5.9)	35 (4.9)	37 (4.6)
Arizona	17 (3.0)	29 (4.3)	41 (5.1)	58 (5.4)	43 (5.5)	32 (4.0)	31 (3.6)
Arkansas	33 (4.7)	28 (4.3)	36 (4.4)	34 (5.2)	36 (5.8)	35 (4.1)	32 (4.3)
California	19 (3.4)	26 (4.2)	39 (5.6)	64 (5.8)	47 (5.8)	34 (4.1)	32 (4.1)
Colorado	25 (3.5)	32 (4.7)	46 (5.1)	50 (6.4)	52 (6.2)	35 (4.1)	34 (4.1)
Connecticut	22 (3.0)	38 (4.4)	48 (3.9)	66 (5.3)	57 (4.7)	33 (3.1)	39 (3.4)
Delaware	37 (1.6)	43 (2.6)	42 (1.6)«	45 (4.2)	45 (5.7)	43 (1.2)	38 (1.2)
Dist. Columbia	27 (1.2)	39 (2.3)	46 (1.6)	44 (3.9)	42 (2.4)	39 (1.3)	38 (1.3)
Florida	28 (3.6)	33 (4.6)	39 (4.6)	36 (4.7)	44 (5.3)	35 (3.7)	33 (4.2)
Georgia	23 (3.3)	33 (4.7)	42 (5.0)	42 (6.0)	46 (6.6)	33 (4.0)	35 (4.0)
Hawaii	23 (1.3)	29 (2.1)	38 (1.9)	38 (4.4)	37 (2.5)	31 (1.1)	31 (1.1)
Idaho	30 (3.2)	31 (3.9)	37 (4.7)	53 (5.2)>	40 (6.2)	34 (3.6)	34 (3.6)
Indiana	25 (3.6)	31 (4.1)	36 (4.2)	43 (5.6)	45 (5.8)	32 (3.8)	32 (3.8)
Iowa	28 (4.3)	33 (4.7)	38 (5.4)	52 (7.6)	43 (6.2)	34 (4.7)	32 (4.6)
Kentucky	23 (3.9)	33 (4.6)	41 (5.2)	46 (5.8)	52 (5.6)	36 (4.6)	36 (4.8)
Louisiana	27 (4.5)	26 (4.3)	37 (4.4)	33 (5.2)	49 (6.4)	33 (4.3)	31 (4.2)
Maine	29 (4.0)	36 (5.1)	46 (5.8)	50 (6.7)	46 (7.5)	36 (4.7)	38 (4.8)
Maryland	25 (3.7)	35 (4.1)	44 (4.2)	46 (7.4)!	35 (5.4)	33 (3.4)	34 (3.6)
Massachusetts	19 (2.6)	34 (4.0)	41 (4.7)	67 (5.4)	63 (5.3)	33 (3.6)	32 (3.1)
Michigan	23 (3.4)	31 (4.4)	40 (4.0)	48 (6.1)	44 (4.7)	32 (3.6)	33 (3.5)
Minnesota	30 (5.7)	29 (5.2)	40 (6.5)	36 (9.0)!	44 (7.2)	34 (5.6)	32 (5.7)
Mississippi	32 (3.4)	26 (3.4)	37 (3.7)	33 (4.0)	47 (4.8)	34 (3.2)	33 (3.0)
Missouri	26 (4.6)	33 (5.3)	39 (5.4)	48 (6.8)	44 (6.4)	34 (5.0)	34 (4.9)
Nebraska	33 (4.7)	40 (5.2)	42 (4.9)	56 (9.4)	53 (7.3)	38 (4.9)	40 (4.8)
New Hampshire	26 (3.6)	35 (4.3)	47 (5.0)	48 (6.1)	42 (5.6)	35 (4.3)	35 (4.1)
New Jersey	21 (3.6)	34 (5.0)	41 (5.4)	65 (5.8)	59 (6.2)	29 (4.1)	38 (4.2)
New Mexico	20 (3.0)	27 (4.1)	33 (3.7)	40 (5.5)	38 (4.4)	29 (3.3)	29 (3.5)
New York	28 (4.4)	34 (5.4)	45 (5.8)	64 (7.4)!	70 (5.7)	39 (5.0)	40 (4.9)
North Carolina	27 (4.4)	30 (5.0)	41 (5.7)	38 (5.9)	37 (6.3)!	31 (4.6)	36 (5.3)
North Dakota	35 (4.1)	37 (5.2)	43 (5.3)	58 (8.1)!	28 (5.4)	37 (4.2)	37 (4.6)
Ohio	23 (3.9)	30 (4.6)	34 (5.2)	55 (6.3)	45 (7.0)	32 (4.4)	30 (4.5)
Oklahoma	29 (4.9)	33 (5.5)	42 (5.5)	45 (7.1)	45 (6.9)	34 (5.0)	37 (5.1)
Pennsylvania	24 (3.8)	35 (4.5)	35 (4.4)	51 (7.1)!	48 (6.1)	32 (4.0)	34 (4.3)
Rhode Island	20 (1.2)<	28 (2.7)<	34 (2.5)<	60 (2.6)	64 (4.0)	32 (0.8)«	31 (0.8)
South Carolina	24 (3.2)	31 (4.1)	40 (4.9)	40 (5.0)	42 (4.2)	32 (3.8)	34 (3.8)
Tennessee	24 (4.3)	33 (4.9)	37 (5.1)	46 (6.7)	39 (5.6)	31 (4.6)	35 (4.8)
Texas	20 (3.5)	27 (4.6)	35 (4.8)	53 (5.9)	55 (5.2)	33 (3.9)	34 (4.3)
Utah	29 (4.1)	40 (4.9)	43 (5.6)	50 (7.0)	42 (6.0)	34 (4.3)	37 (4.5)
Virginia	21 (3.3)	35 (4.7)	46 (5.5)	49 (6.8)	44 (6.0)	34 (4.3)	34 (4.3)
West Virginia	28 (5.2)	27 (4.7)	35 (5.3)	47 (6.9)	36 (5.7)	33 (5.1)	34 (5.0)
Wisconsin	22 (4.0)	29 (4.6)	39 (5.3)	52 (7.4)	45 (6.8)!	32 (4.7)	31 (4.2)
Wyoming	25 (3.4)	31 (3.8)	30 (3.8)	46 (6.5)!	35 (5.0)<	30 (3.6)	29 (3.5)
TERRITORIES							
Guam	45 (2.1)	39 (2.9)	44 (2.1)<	49 (4.5)	48 (2.6)	44 (1.3)	46 (1.4)
Virgin Islands	47 (2.3)	46 (3.7)	50 (1.6)	59 (3.2)	60 (2.0)	54 (1.3)	51 (1.5)

TABLE 2.21 | Percentages of Students Within Selected Demographic Subgroups in the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	25 (4.3)	74 (5.8)	47 (9.8)!	36(15.9)!	63(33.5)!	0 (0.0)	63(12.3)!	56(20.0)!	33 (5.2)
Northeast	18(12.6)!	60(26.9)!	*** (***)	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	*** (***)	10 (6.6)!
Southeast	55(10.9)!	84 (6.9)	*** (***)	*** (***)	*** (***)	*** (***)	*** (***)	62(48.6)!	63 (9.8)!
Central	10 (3.5)!	81(11.0)!	*** (***)	*** (***)	*** (***)	*** (***)	100 (0.0)!	*** (***)	15 (7.8)!
West	21 (6.9)!	42(19.8)!	44(13.2)!	*** (***)	*** (***)	0 (0.0)	35(22.2)!	74(32.6)!	29(11.4)!
STATES									
Alabama	22 (4.5)	57 (5.8)	51 (7.7)!	*** (***)	*** (***)	23(13.2)!	39(10.8)!	67(13.3)!	30 (6.0)!
Arizona	16 (3.0)	48 (9.9)!	56 (6.2)	*** (***)	86 (5.3)!	0 (0.0)	76(13.2)!	56(17.8)!	35 (6.2)
Arkansas	23 (3.5)	77 (3.7)	48 (8.9)	*** (***)	*** (***)	0 (0.0)	86(14.9)!	41 (9.2)!	29 (4.4)
California	13 (2.6)!	56 (7.7)!	53 (6.1)	36 (6.3)!	*** (***)	0 (0.0)	70(13.6)!	*** (***)	32 (6.5)!
Colorado	24 (3.1)	70 (9.5)!	62 (5.0)	*** (***)	*** (***)	5 (3.9)!	100 (0.0)!	19(11.3)!	39 (6.4)
Connecticut	26 (3.6)	78 (3.5)	82 (3.6)	*** (***)	*** (***)	4 (3.4)!	100 (0.0)	*** (***)	33 (5.9)!
Delaware	40 (0.8)	49 (1.9)	58 (4.6)	*** (***)	*** (***)	0 (0.0)	*** (***)	58 (0.4)	44 (0.4)
Dist. Columbia	*** (***)	39 (0.5)	42 (3.2)	*** (***)	*** (***)	0 (0.0)	55 (0.3)	*** (***)	0 (0.0)
Florida	22 (3.7)	54 (5.7)	51 (6.8)!	13 (5.6)!	*** (***)	0 (0.0)	67(11.0)	54(23.3)!	31 (5.7)!
Georgia	23 (4.5)	59 (6.1)	51 (6.6)	*** (***)	*** (***)	0 (0.0)	43(16.2)!	52(13.4)!	36 (6.6)!
Hawaii	18 (1.9)	*** (***)	38 (2.7)	35 (0.8)	*** (***)	0 (0.0)	75 (0.7)	*** (***)	24 (0.3)
Idaho	27 (0.8)	*** (***)	36 (4.0)	*** (***)	52 (8.3)!	*** (***)	*** (***)	32 (3.4)	30 (0.8)
Indiana	28 (4.4)	76 (6.6)	54 (8.5)!	*** (***)	*** (***)	10 (9.8)!	82(19.0)!	36(13.3)!	32 (5.4)
Iowa	37 (5.1)	*** (***)	53 (6.6)	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	38 (9.0)!	41 (7.8)!
Kentucky	33 (5.1)	46 (6.9)	61 (7.5)!	*** (***)	*** (***)	8 (7.2)!	75(11.9)!	35 (9.3)!	33 (5.8)
Louisiana	16 (2.6)	59 (4.5)	45 (6.6)	*** (***)	*** (***)	0 (0.0)	54(10.7)!	69(11.4)!	21 (5.9)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	20 (3.6)	67 (3.8)	45 (5.8)	14 (5.2)!	*** (***)	12 (6.9)!	94 (5.9)!	26(26.1)!	34 (7.3)!
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	24 (4.4)	86 (3.3)	48 (7.2)!	*** (***)	*** (***)	0 (0.0)	92 (6.7)!	36(18.0)!	23 (6.6)!
Minnesota	34 (4.4)	74(12.2)!	44 (8.1)!	50 (8.0)!	*** (***)	28 (5.1)	*** (***)	39(10.3)!	25 (7.2)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	33 (3.5)	86 (2.9)	55 (5.5)	*** (***)	*** (***)	0 (0.0)	*** (***)	32 (8.5)!	47 (3.3)
New Hampshire	37 (0.9)	*** (***)	30 (8.0)!	*** (***)	*** (***)	6 (5.9)!	*** (***)	24(15.1)!	34 (0.9)
New Jersey	16 (3.7)!	82 (4.4)	64 (4.4)	11 (4.2)!	*** (***)	1 (0.6)!	90 (7.2)	*** (***)	33 (7.4)!
New Mexico	11 (1.1)	*** (***)	36 (1.5)	*** (***)	60 (3.5)	0 (0.0)	13 (0.5)	28 (3.8)	31 (0.8)
New York	16 (3.0)	84 (5.9)	79 (5.4)	37(11.0)	*** (***)	0 (0.0)	93 (5.1)	0 (0.0)	19 (5.8)!
North Carolina	25 (4.0)	47 (5.2)	55 (6.4)	*** (***)	80 (9.4)!	0 (0.0)	48(29.9)!	57(10.0)!	30 (4.7)
North Dakota	26 (2.4)	*** (***)	35 (7.5)!	*** (***)	89 (4.1)!	0 (0.0)	*** (***)	34 (5.7)	27 (3.0)
Ohio	27 (4.0)	79 (3.7)	58 (6.9)!	*** (***)	*** (***)	0 (0.0)	93 (7.4)	37(18.6)!	29 (5.0)
Oklahoma	28 (4.4)	58 (7.7)!	44 (8.5)!	*** (***)	48 (7.1)!	0 (0.0)	86 (9.7)!	48(11.4)!	25 (6.4)!
Pennsylvania	28 (4.0)	79 (8.1)!	67 (7.1)!	*** (***)	*** (***)	0 (0.0)	74(14.3)!	28(19.0)!	32 (4.6)
Rhode Island	33 (0.8)	85 (3.3)	76 (2.6)	*** (***)	*** (***)	4 (0.1)	68 (7.9)	*** (***)	45 (0.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	16 (3.9)!	56 (7.4)	47 (6.0)	*** (***)	*** (***)	0 (0.0)	78 (9.8)!	8 (7.3)!	28 (5.9)!
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	25 (3.7)	58 (5.7)	41 (5.7)	7 (2.7)!	*** (***)	8 (5.9)!	84(12.3)!	67 (9.8)!	33 (5.0)
West Virginia	31 (3.9)	53 (8.6)!	40 (6.6)!	*** (***)	*** (***)	*** (***)	28(11.9)!	14 (5.6)!	37 (4.8)
Wisconsin	29 (4.1)	87 (5.3)	51 (5.6)	*** (***)	*** (***)	0 (0.0)	100 (0.0)!	20 (8.6)!	32 (5.9)
Wyoming	33 (0.9)	*** (***)	45 (3.1)	*** (***)	59 (5.3)	*** (***)	*** (***)	29 (1.7)	34 (0.6)
TERRITORIES									
Guam	28 (4.0)	*** (***)	56 (2.5)	43 (0.9)	*** (***)	*** (***)	*** (***)	0 (0.0)	60 (0.2)
Virgin Islands	*** (***)	46 (0.8)	67 (2.3)	*** (***)	*** (***)	*** (***)	*** (***)	100 (0.0)	39 (0.2)

(xxx) Did not participate in the 1990 Trial State Assessment.

TABLE 2.21 | Percentages of Students Within Selected Demographic Subgroups in the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990						
	Percentage of Students by Parents' Highest Level of Education					Percentage of Students by Gender	
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Male	Female
NATION	25 (3.8)	34 (4.3)	41 (5.4)	55 (6.7)	47 (6.4)	35 (4.4)	36 (4.4)
Northeast	15 (7.3)!	18 (9.6)!	36(20.4)!	*** (***)	*** (***)	23(10.6)!	24(12.7)!
Southeast	55 (9.6)	65(10.3)!	69(11.0)!	69(13.3)!	70(12.0)!	67 (9.4)!	61 (9.8)
Central	16 (5.3)!	23 (4.4)!	20 (4.9)!	*** (***)	*** (***)	22 (4.8)!	22 (5.1)!
West	21 (7.1)!	26 (7.8)!	40(11.1)!	48(10.5)!	41(10.5)!	29 (8.1)!	33 (7.5)!
STATES							
Alabama	29 (4.3)	30 (4.3)	35 (5.2)	42 (6.1)	47 (5.9)	34 (4.5)	33 (4.3)
Arizona	20 (3.7)	28 (3.7)	44 (4.7)	56 (6.3)	50 (5.3)	35 (4.1)	32 (4.0)
Arkansas	33 (2.9)	28 (3.8)	39 (4.4)	34 (5.1)	52 (5.7)	35 (3.7)	36 (3.7)
California	17 (2.8)	26 (4.1)	39 (5.5)	56 (6.4)	53 (5.2)	33 (4.2)	32 (3.9)
Colorado	22 (2.9)	33 (4.4)	48 (4.2)	55 (6.2)	45 (4.5)	34 (3.1)	33 (3.4)
Connecticut	23 (2.8)	41 (5.1)	48 (4.5)	64 (6.3)	65 (5.3)	36 (3.7)	37 (3.5)
Delaware	35 (1.3)	38 (2.3)	50 (1.6)	53 (5.4)	58 (4.0)	42 (1.2)	44 (1.3)
Dist. Columbia	29 (1.5)	32 (2.1)	46 (1.6)	47 (4.5)	43 (3.5)	39 (1.0)	37 (0.9)
Florida	23 (3.4)	31 (4.3)	37 (4.5)	50 (7.0)	46 (6.3)	33 (4.1)	33 (4.1)
Georgia	29 (4.5)	31 (4.9)	43 (5.2)	46 (6.9)	42 (6.4)	37 (4.6)	36 (4.7)
Hawaii	23 (1.0)	28 (1.9)	43 (1.7)	44 (5.2)	37 (2.7)	34 (0.9)	31 (1.0)
Idaho	25 (1.4)	27 (1.8)	35 (2.3)	34 (3.8)	40 (4.9)	28 (1.3)	29 (1.4)
Indiana	29 (4.9)	28 (4.1)	36 (5.0)	47 (6.5)	49 (6.6)	33 (4.5)	34 (4.3)
Iowa	35 (5.3)	39 (5.4)	40 (5.4)	42 (7.7)!	53 (6.9)	40 (5.1)	37 (5.3)
Kentucky	27 (4.0)	32 (5.4)!	38 (5.3)	47 (6.5)!	45 (6.9)!	36 (4.7)	35 (5.1)
Louisiana	29 (3.5)	27 (3.2)	39 (3.7)	41 (4.5)	40 (4.4)	34 (3.3)	34 (3.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	27 (3.1)	36 (3.5)	45 (4.3)	46 (6.4)	42 (4.9)	36 (3.3)	35 (3.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	23 (3.4)	33 (4.4)	42 (5.4)	54 (6.8)	45 (5.5)	33 (4.3)	35 (4.4)
Minnesota	30 (4.1)	36 (4.8)	40 (5.2)	49 (6.7)	52 (5.5)	37 (4.4)	35 (4.6)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	30 (2.9)	33 (3.4)	42 (5.0)	52 (7.1)	52 (4.5)	37 (3.4)	35 (3.4)
New Hampshire	27 (1.2)	40 (2.8)	45 (2.0)	57 (5.2)	35 (6.4)!	37 (1.2)	36 (1.4)
New Jersey	19 (3.2)	32 (4.7)	42 (5.1)	61 (6.1)	48 (5.5)	31 (4.0)	33 (3.7)
New Mexico	18 (1.0)	26 (1.8)	32 (1.7)	37 (3.2)	42 (3.4)	27 (1.2)	29 (1.3)
New York	30 (3.4)	35 (4.2)	37 (4.4)	59 (5.3)	69 (4.6)	39 (3.8)	41 (3.7)
North Carolina	29 (4.6)	32 (4.0)	37 (4.0)	42 (5.7)	45 (6.2)	35 (3.9)	34 (4.3)
North Dakota	24 (2.7)	30 (3.1)	32 (4.1)	56 (8.0)!	44 (5.9)	27 (2.9)	31 (2.9)
Ohio	25 (3.4)	32 (4.1)	37 (4.4)	49 (6.0)	54 (5.5)	33 (3.6)	34 (3.9)
Oklahoma	24 (3.9)	33 (5.3)	40 (4.8)	48 (5.5)	47 (7.4)!	34 (4.5)	33 (4.4)
Pennsylvania	25 (3.9)	36 (4.5)	40 (4.6)	57 (5.7)	56 (7.4)	35 (4.1)	37 (4.5)
Rhode Island	26 (1.3)	39 (2.6)	46 (2.2)	64 (3.8)	61 (3.4)	39 (1.4)	41 (0.8)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	22 (4.1)	28 (4.3)	37 (5.6)	45 (5.7)	42 (6.3)	32 (4.5)	33 (4.6)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	20 (2.8)	37 (4.0)	42 (4.9)	50 (6.5)	42 (4.9)	33 (3.7)	33 (3.8)
West Virginia	22 (3.7)	26 (4.1)	35 (4.3)	45 (6.0)	43 (5.9)	33 (4.2)	30 (3.8)
Wisconsin	28 (4.0)	33 (4.3)	39 (4.3)	49 (6.0)	44 (6.1)	34 (4.1)	35 (4.1)
Wyoming	30 (1.2)	33 (2.0)	40 (2.5)	49 (3.8)	52 (3.9)	36 (0.9)	35 (1.1)
TERRITORIES							
Guam	44 (2.1)	38 (3.3)	51 (2.0)	43 (3.4)	41 (2.9)	45 (1.2)	44 (1.2)
Virgin Islands	49 (3.3)	46 (3.4)	44 (2.5)	61 (3.0)	54 (2.6)	50 (1.2)	50 (1.1)

(xxx) Did not participate in the 1990 Trial State Assessment.

CHAPTER THREE

Mathematics Achievement by Content Areas for the Nation and the States

Overview

In contrast to the previous chapters, which contain results on overall mathematics achievement for the nation and the states, this chapter presents results separately for each of the five mathematics content areas contained in the overall composite scale. In accordance with the mathematics frameworks underlying the assessment, the content-area scales are numbers and operations; measurement; geometry; data analysis, statistics, and probability; and algebra and functions.[9]

Data from a sixth scale, estimation, is the result of a special paced-audiotape portion of the assessment. The estimation questions included a broad array of situations, ranging from measurement, monetary value, and time estimates to the results of various numerical operations. For these questions, the pacing format made any direct calculation of answers difficult. The information from the estimation study is intended to supplement that obtained from the numbers and operations and measurement questions administered using the more traditional pencil and paper or calculator approaches. Because the estimation scale is separate, NAGB developed achievement levels for this part of the assessment as well as for the overall composite mathematics scale encompassing the five content areas. These data are presented for the nation (TABLE 3.2) and for the states (TABLE 3.13). However, trend results are available only for the nation, because the special estimation component was not conducted as part of the 1990 Trial State Assessment.

Brief descriptions of the five content areas and estimation are presented in FIGURE 3.1. For each of the six areas, average proficiency and percentile results are presented. State comparisons in average proficiency are shown graphically for each area at both grades 4 and 8.

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[9] For a full description of the framework underlying NAEP's 1990 and 1992 mathematics assessments, see *Mathematics Objectives, 1990 Assessment.*

Background and Description of the Mathematics Content Areas

FIGURE 3.1
Description of Content Areas

Numbers and Operations

This content area focuses on students' understanding of numbers (whole numbers, fractions, decimals, and integers) and their application to real-world situations, as well as computational and estimation situations. Understanding numerical relationships as expressed in ratios, proportions, and percents is emphasized. Students' skills in estimation, mental computation, use of calculators, generalization of numerical patterns, and verification of results are also included.

Measurement

This content area focuses on students' ability to describe real-world objects using numbers. Students are asked to identify attributes, select appropriate units, apply measurement concepts, and communicate measurement-related ideas to others. Questions are included that require an ability to read instruments using metric, customary, or nonstandard units with emphasis on precision and accuracy. Questions requiring estimation; measurements; and applications of measurements of length, time, money, temperature, mass/weight, area, volume capacity, and angles are also included under this content area.

Geometry

This content area focuses on students' knowledge of geometric figures and relationships and on their skills in working with this knowledge. These skills are important at all levels of schooling as well as in practical applications. Students need to be able to model and visualize geometric figures in one, two, and three dimensions and to communicate geometric ideas. In addition, students should be able to use informal reasoning to establish geometric relationships.

Data Analysis, Statistics, and Probability

This content area focuses on data representation and analysis across all disciplines and reflects the importance and prevalence of these activities in our society. Statistical knowledge and the ability to interpret data are necessary skills in the contemporary world. Questions emphasize appropriate methods for gathering data, the visual exploration of data, and the development and evaluation of arguments based on data analysis.

Algebra and Functions

This content area is broad in scope, covering a significant portion of the grade 9-12 curriculum, including algebra, elementary functions (pre-calculus), trigonometry, and some topics in discrete mathematics. For the fourth grade, and in part, at grade 8, algebraic and functional concepts are treated in more informal, exploratory ways. Proficiency in this content area requires both manipulative facility and conceptual understanding; it involves the ability to use algebra as a means of representation and to use algebraic skills and concepts as problem-solving tools. Functions are viewed not only in terms of algebraic formulas, but also in terms of verbal descriptions, tables of values, and graphs.

Estimation

Estimation involving whole numbers, fractions and decimals pervades most of the content areas in mathematics. Presented using a paced-audiotape procedure, questions assess students' abilities to make estimates appropriate to a wide variety of situations. Estimates take into consideration such factors as knowing when to estimate and whether to overestimate or underestimate in a particular problem.

* * *

A second feature of the design in the construction of the items was the anticipated cognitive ability required of the student to correctly respond to the item. These three categories, conceptual understanding, procedural knowledge, and problem solving, are detailed in FIGURE 3.2. The main intent in the use of these categories is to provide balance within each content area among items requiring the use of conceptual knowledge and those requiring procedural skill. The ability category of problem solving requires students to integrate their knowledge of both of the prior areas with their knowledge of problem solving in the solution of new situations.

FIGURE 3.2
Description of Mathematical Abilities

The following three categories of mathematical abilities are not to be construed as hierarchical. For example, problem solving involves interactions between conceptual knowledge and procedural skills, but what is considered complex problem solving at one grade level may be considered conceptual understanding or procedural knowledge at another.

Conceptual Understanding

Students demonstrate conceptual understanding in mathematics when they provide evidence that they can recognize, label, and generate examples and counterexamples of concepts; can use and interrelate models, diagrams and varied representations of concepts; can identify and apply principles; know and can apply facts and definitions; can compare, contrast, and integrate related concepts and principles; can recognize, interpret, and apply the signs, symbols, and terms used to represent concepts; and can interpret the assumptions and relations involving concepts in mathematical settings. Such understandings are essential to performing procedures in a meaningful way and applying them in problem-solving situations.

Procedural Knowledge

Students demonstrate procedural knowledge in mathematics when they provide evidence of their ability to select and apply appropriate procedures correctly, verify and justify the correctness of a procedure using concrete models for symbolic methods, and extend or modify procedures to deal with factors inherent in problem settings. Procedural knowledge includes the various numerical algorithms in mathematics that have been created as tools to meet specific needs in an efficient manner. It also encompasses the abilities to read and produce graphs and tables, execute geometric constructions, and perform noncomputational skills such as rounding and ordering.

Problem Solving

In problem solving, students are required to use their reasoning and analytic abilities when they encounter new situations. Problem solving includes the ability to recognize and formulate problems; determine the sufficiency and consistency of data; use strategies, data, models and relevant mathematics; generate, extend and modify procedures; use reasoning (i.e., spatial, inductive, deductive, statistical and proportional); and judge the reasonableness and correctness of solutions.

Average Proficiency In Mathematics Content Areas For The Nation

TABLE 3.1 Average Proficiency in Mathematics Content Areas, Grades 4, 8, and 12

Grades	Assessment Years	Average Proficiency	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
4	1992	218 (0.7)>	216 (0.8)>	224 (0.8)>	221 (0.7)>	219 (0.9)	217 (0.9)>	208 (1.5)>
	1990	213 (0.9)	210 (1.1)	218 (1.0)	213 (0.9)	--	214 (0.9)	200 (1.5)
8	1992	268 (0.9)>	272 (0.8)>	266 (1.2)>	263 (0.9)>	268 (1.1)>	267 (1.0)>	271 (1.3)
	1990	263 (1.3)	267 (1.3)	259 (1.6)	260 (1.3)	263 (1.6)	261 (1.2)	269 (1.2)
12	1992	299 (0.9)>	298 (0.9)>	297 (0.9)>	300 (1.0)>	298 (1.0)>	300 (1.0)>	294 (1.2)
	1990	294 (1.1)	293 (1.1)	292 (1.3)	295 (1.3)	294 (1.2)	296 (1.2)	292 (1.2)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

Note: There was no Data Analysis, Statistics, and Probability Scale in 1990 for grade 4.

TABLE 3.2 National Percentages At or Above Achievement Levels in Estimation, Grades 4, 8, and 12

Grades	Assessment Years	Percentage of Students At or Above			
		Advanced	Proficient	Basic	Percentage Below Basic
4	1992	1 (0.3)	30 (1.7)>	91 (1.1)	9 (1.1)
	1990	0 (0.4)	20 (1.3)	90 (1.8)	10 (1.8)
8	1992	1 (0.5)	20 (1.8)	67 (2.0)	33 (2.0)
	1990	1 (0.5)	18 (1.6)	64 (2.3)	36 (2.3)
12	1992	4 (0.7)	34 (2.0)	82 (1.7)	18 (1.7)
	1990	4 (0.9)	33 (2.1)	79 (1.6)	21 (1.6)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level.
< The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level.
The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 or less were rounded to 0 percent.

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TABLE 3.3 Mathematics Proficiency (Scale-Score Cutpoint) Corresponding to Each Achievement Level, Grades 4, 8, and 12

Grades	Advanced	Proficient	Basic
4	286	229	158
8	328	295	258
12	340	307	269

TABLE 3.4 Percentiles of Proficiency in Mathematics Content Areas, Grades 4, 8, and 12

	Assessment Years	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
Grade 4								
Numbers & Operations	1992	156 (1.0)	170 (1.3)	192 (0.8)	217 (1.0)>	240 (1.0)>	259 (1.1)>	270 (2.3)
	1990	154 (1.9)	167 (2.4)	189 (1.5)	212 (1.1)	233 (1.3)	252 (1.9)	264 (2.1)
Measurement	1992	164 (1.8)	178 (1.3)	201 (1.0)	226 (0.7)>	248 (1.1)>	266 (1.1)	277 (1.3)
	1990	160 (2.4)	174 (1.3)	197 (2.0)	220 (1.0)	242 (1.4)	261 (2.0)	272 (2.1)
Geometry	1992	168 (1.2)	180 (1.3)>	200 (0.7)>	222 (1.1)>	243 (1.1)>	260 (1.1)>	270 (0.8)
	1990	162 (2.7)	173 (1.9)	193 (1.5)	214 (1.0)	234 (1.1)	252 (1.7)	264 (2.8)
Data Analysis	1992	162 (1.1)	175 (1.0)	198 (1.1)	221 (1.1)	242 (1.2)	260 (1.7)	271 (2.2)
	1990	--	--	--	--	--	--	--
Algebra & Functions	1992	159 (2.0)	172 (1.3)	195 (1.2)	218 (1.1)	240 (1.4)	259 (1.5)	270 (1.4)
	1990	160 (1.7)	173 (1.4)	193 (1.1)	215 (1.2)	235 (1.5)	254 (1.6)	264 (1.8)
Estimation	1992	146 (2.4)	160 (1.5)	184 (2.4)	210 (1.8)>	234 (1.5)>	253 (3.1)	263 (2.1)
	1990	147 (3.5)	158 (2.4)	178 (2.0)	200 (2.6)	223 (1.9)	243 (2.4)	255 (4.7)
Grade 8								
Numbers & Operations	1992	212 (1.5)	225 (1.2)	248 (1.3)	273 (1.1)>	297 (1.1)>	316 (1.1)>	327 (1.5)>
	1990	208 (2.5)	221 (3.1)	243 (1.5)	268 (1.3)	291 (1.0)	310 (1.1)	320 (1.4)
Measurement	1992	191 (1.9)	207 (1.5)	234 (1.6)	266 (1.3)>	297 (1.5)>	324 (1.7)>	339 (1.8)>
	1990	186 (3.2)	203 (1.8)	231 (1.8)	260 (1.9)	288 (2.3)	312 (3.4)	326 (2.1)
Geometry	1992	205 (1.3)	218 (1.4)	239 (1.2)	264 (1.0)	288 (1.5)	308 (1.3)	319 (1.4)
	1990	200 (3.1)	214 (2.2)	237 (1.7)	261 (1.6)	284 (1.2)	303 (1.7)	315 (3.7)
Data Analysis	1992	198 (2.0)	214 (1.1)	240 (1.7)	270 (1.4)	298 (1.4)>	321 (1.9)>	334 (2.1)>
	1990	193 (2.2)	209 (2.0)	236 (2.9)	266 (1.8)	292 (1.4)	313 (1.5)	326 (1.7)
Algebra & Functions	1992	206 (1.6)	219 (1.4)	242 (1.1)	268 (1.1)>	293 (1.1)>	315 (1.7)	328 (2.2)
	1990	201 (2.6)	214 (2.9)	237 (1.6)	262 (1.1)	287 (1.5)	308 (2.2)	321 (2.1)
Estimation	1992	222 (4.3)	233 (2.1)	251 (2.0)	272 (1.6)	291 (1.9)	306 (2.5)	315 (2.9)
	1990	222 (1.4)	232 (1.3)	249 (1.8)	269 (2.3)	288 (2.3)	305 (1.2)	313 (2.1)

(Table 3.4 continued on the next page)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at the 95 percent confidence level. The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

Note: There was no Data Analysis, Statistics, and Probability Scale in 1990 for grade 4.

TABLE 3.4 Percentiles of Proficiency in Mathematics Content Areas, Grades 4, 8, and 12 (continued)

	Assessment Years	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
Grade 12								
Numbers & Operations	1992	244 (1.6)	256 (1.1)>	277 (1.2)>	299 (1.1)>	321 (0.9)>	339 (1.5)	349 (1.3)
	1990	238 (3.0)	249 (1.7)	271 (1.7)	294 (1.0)	316 (1.3)	335 (1.7)	346 (1.7)
Measurement	1992	234 (1.3)	248 (0.9)	272 (1.1)	298 (0.9)	324 (1.2)>	344 (1.9)	356 (1.4)
	1990	230 (2.8)	244 (1.9)	268 (2.1)	294 (2.7)	318 (0.9)	339 (1.9)	351 (1.9)
Geometry	1992	235 (1.9)>	249 (1.5)>	274 (1.3)>	302 (1.0)	328 (1.2)	349 (1.4)	362 (1.7)
	1990	226 (2.6)	240 (1.8)	268 (1.5)	297 (2.2)	324 (1.9)	347 (2.0)	361 (1.8)
Data Analysis	1992	238 (1.6)	252 (1.6)	275 (1.4)	299 (1.2)	322 (1.1)	341 (1.0)	352 (1.7)
	1990	233 (2.3)	248 (1.6)	271 (1.7)	297 (1.2)	319 (1.4)	338 (1.8)	348 (2.4)
Algebra & Functions	1992	238 (1.4)	250 (1.4)	273 (1.1)	300 (1.2)	327 (1.5)	347 (1.3)	358 (0.9)
	1990	233 (2.1)	246 (1.8)	270 (1.4)	297 (1.3)	322 (1.3)	343 (1.5)	355 (2.3)
Estimation	1992	248 (2.3)	258 (1.4)>	276 (1.9)	295 (1.5)	314 (0.9)	328 (2.1)	337 (2.1)
	1990	241 (3.0)	252 (1.5)	273 (1.6)	295 (2.2)	313 (1.3)	327 (1.1)	337 (3.9)

Average Proficiency In Mathematics Content Areas By Region

TABLE 3.5 Average Proficiency in Mathematics Content Areas by Region, Grades 4, 8, and 12

	Assessment Years	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
Grade 4							
Northeast	1992	221 (2.1)>	228 (2.2)>	224 (2.1)>	223 (2.1)	223 (2.1)>	210 (5.1)
	1990	213 (2.9)	219 (3.0)	215 (3.0)	--	216 (2.8)	211 (3.5)
Southeast	1992	207 (1.7)	216 (1.9)>	213 (1.3)>	212 (1.9)	208 (1.9)	195 (3.8)
	1990	202 (2.3)	209 (2.3)	205 (2.1)	--	205 (1.9)	187 (3.0)
Central	1992	220 (2.0)>	230 (2.1)>	225 (1.6)>	224 (2.0)	221 (1.9)	215 (3.7)
	1990	213 (2.0)	223 (2.1)	216 (1.7)	--	217 (1.9)	205 (4.2)
West	1992	215 (1.7)	222 (1.6)	222 (1.2)	218 (1.8)	216 (1.9)	213 (3.0)>
	1990	213 (2.4)	222 (2.7)	217 (2.8)	--	217 (2.5)	201 (3.0)
Grade 8							
Northeast	1992	273 (2.5)	267 (3.3)	264 (2.8)	271 (3.1)	268 (2.6)	271 (4.7)
	1990	273 (2.5)	266 (3.7)	268 (2.9)	273 (3.4)	268 (2.8)	277 (3.0)
Southeast	1992	265 (1.4)	256 (1.8)>	256 (1.5)	261 (1.9)	261 (1.4)	265 (2.6)
	1990	261 (2.7)	249 (2.9)	251 (2.8)	254 (3.2)	257 (2.3)	264 (2.0)
Central	1992	278 (1.9)>	273 (2.3)>	270 (1.7)>	275 (2.1)>	273 (2.1)>	276 (2.1)
	1990	271 (2.0)	264 (2.9)	263 (2.5)	267 (2.4)	263 (2.3)	271 (3.5)
West	1992	271 (1.8)>	267 (2.7)>	263 (2.1)	268 (2.3)	266 (2.5)	270 (1.9)
	1990	264 (2.6)	258 (3.1)	260 (2.5)	261 (3.2)	260 (2.5)	266 (2.1)
Grade 12							
Northeast	1992	301 (1.4)	300 (1.5)	303 (1.6)	300 (1.6)	304 (1.7)	294 (3.1)
	1990	298 (1.9)	298 (2.8)	302 (2.7)	300 (2.7)	302 (2.4)	296 (3.0)
Southeast	1992	293 (1.3)>	285 (1.5)	292 (1.6)>	291 (1.6)	292 (1.8)	290 (2.5)
	1990	285 (2.1)	280 (2.6)	282 (2.3)	285 (2.5)	286 (2.3)	286 (2.2)
Central	1992	302 (1.7)>	303 (2.1)>	305 (1.9)	303 (2.0)	304 (2.1)	297 (1.9)
	1990	296 (2.4)	296 (2.8)	299 (3.2)	298 (2.4)	298 (2.8)	295 (1.7)
West	1992	297 (1.6)	300 (1.9)	301 (2.1)	296 (2.3)	298 (1.7)	295 (2.5)
	1990	293 (2.4)	294 (3.0)	295 (2.9)	293 (2.5)	295 (2.7)	292 (3.2)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

Note: There was no Data Analysis, Statistics, and Probability Scale in 1990 for grade 4.

TABLE 3.6 | Average Proficiency in Mathematics Content Areas

PUBLIC SCHOOLS	Grade 4 - 1992					
	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
NATION	214 (0.9)	222 (0.9)	220 (0.7)	218 (1.0)	216 (0.9)	206 (1.8)
Northeast	220 (2.2)	227 (2.3)	224 (2.2)	223 (2.3)	222 (2.2)	205 (6.8)!
Southeast	205 (2.0)	214 (2.1)	212 (1.6)	210 (2.2)	206 (2.2)	195 (3.9)
Central	219 (2.3)	228 (2.4)	224 (2.0)	223 (2.3)	220 (2.1)	212 (4.3)
West	214 (1.8)	221 (1.6)	222 (1.3)	217 (1.9)	215 (1.9)	213 (3.5)
STATES						
Alabama	204 (1.8)	213 (1.7)	209 (1.4)	209 (1.7)	204 (1.8)	198 (1.9)
Arizona	210 (1.4)	219 (1.3)	219 (1.0)	214 (1.3)	213 (1.6)	205 (1.4)
Arkansas	205 (1.1)	215 (1.7)	212 (1.3)	211 (1.3)	206 (1.0)	197 (1.6)
California	204 (1.8)	210 (1.8)	213 (1.6)	206 (1.6)	208 (2.0)	202 (1.8)
Colorado	216 (1.1)	225 (1.2)	227 (1.0)	220 (1.2)	217 (1.3)	212 (1.2)
Connecticut	223 (1.3)	230 (1.2)	230 (1.3)	225 (1.7)	225 (1.4)	217 (1.4)
Delaware	214 (0.9)	220 (0.9)	219 (0.9)	219 (1.4)	215 (1.3)	203 (1.5)
Dist. Columbia	189 (0.7)	193 (0.9)	198 (0.9)	189 (0.9)	191 (0.7)	171 (1.0)
Florida	208 (1.6)	219 (1.8)	215 (1.2)	214 (1.5)	211 (2.3)	200 (1.9)
Georgia	211 (1.3)	219 (1.5)	216 (1.2)	218 (1.3)	213 (2.4)	199 (1.5)
Hawaii	211 (1.4)	216 (1.7)	218 (1.2)	212 (1.5)	210 (1.7)	199 (1.7)
Idaho	216 (1.3)	227 (1.0)	226 (1.1)	219 (1.0)	217 (1.2)	211 (1.2)
Indiana	216 (1.3)	226 (1.4)	223 (1.2)	222 (1.3)	218 (1.9)	210 (1.6)
Iowa	227 (1.3)	234 (1.4)	229 (1.0)	230 (1.0)	226 (1.4)	221 (1.4)
Kentucky	211 (1.2)	218 (1.1)	215 (1.1)	215 (1.4)	212 (1.5)	205 (1.3)
Louisiana	199 (1.5)	208 (1.6)	206 (1.7)	204 (1.8)	201 (2.0)	188 (1.7)
Maine	227 (1.4)	236 (1.4)	236 (0.9)	231 (1.3)	228 (1.8)	220 (1.5)
Maryland	214 (1.4)	220 (1.7)	219 (1.2)	217 (1.5)	215 (1.4)	200 (1.5)
Massachusetts	224 (1.2)	229 (1.6)	229 (1.2)	225 (1.5)	222 (1.4)	217 (1.4)
Michigan	215 (1.9)	225 (2.0)	222 (1.7)	218 (1.8)	216 (2.2)	209 (2.2)
Minnesota	225 (1.2)	233 (1.3)	230 (0.9)	227 (1.2)	225 (1.1)	223 (1.4)
Mississippi	198 (1.3)	206 (1.5)	202 (1.0)	199 (1.5)	195 (1.3)	188 (1.6)
Missouri	217 (1.4)	226 (1.7)	224 (1.1)	223 (1.4)	220 (1.3)	211 (1.7)
Nebraska	221 (1.5)	230 (1.5)	229 (1.2)	225 (1.7)	220 (1.7)	216 (1.5)
New Hampshire	225 (1.3)	234 (1.5)	233 (1.2)	229 (1.6)	227 (1.5)	222 (1.5)
New Jersey	225 (1.6)	230 (1.9)	226 (1.4)	225 (1.6)	224 (2.0)	213 (1.9)
New Mexico	207 (1.8)	216 (1.6)	219 (1.2)	214 (1.6)	210 (2.0)	203 (1.8)
New York	215 (1.4)	221 (1.7)	218 (1.2)	221 (1.6)	215 (1.7)	204 (1.8)
North Carolina	208 (1.3)	216 (1.3)	215 (1.6)	214 (1.3)	210 (1.4)	198 (1.4)
North Dakota	224 (0.9)	235 (1.3)	229 (1.0)	229 (1.3)	225 (1.2)	222 (1.3)
Ohio	214 (1.4)	223 (1.6)	221 (1.3)	218 (1.4)	216 (1.4)	210 (1.4)
Oklahoma	216 (1.1)	224 (1.3)	220 (1.1)	221 (1.5)	217 (1.5)	211 (1.4)
Pennsylvania	221 (1.6)	229 (1.6)	223 (1.2)	223 (1.5)	221 (1.4)	212 (1.6)
Rhode Island	212 (1.7)	218 (1.8)	216 (1.6)	213 (1.6)	212 (1.9)	206 (1.8)
South Carolina	208 (1.2)	218 (1.6)	215 (1.1)	211 (1.4)	207 (1.5)	195 (1.5)
Tennessee	207 (1.5)	213 (1.4)	211 (1.6)	211 (1.6)	209 (1.7)	200 (1.5)
Texas	214 (1.4)	220 (1.6)	220 (1.4)	218 (1.4)	216 (1.4)	199 (1.7)
Utah	219 (1.2)	229 (1.1)	227 (0.9)	221 (1.3)	221 (1.1)	213 (1.0)
Virginia	217 (1.6)	224 (1.5)	222 (1.3)	223 (1.3)	217 (1.6)	206 (1.5)
West Virginia	210 (1.2)	223 (1.3)	217 (1.0)	214 (1.2)	211 (1.4)	204 (1.4)
Wisconsin	225 (1.3)	234 (1.2)	228 (1.2)	229 (1.2)	225 (1.4)	219 (1.7)
Wyoming	221 (1.1)	230 (1.2)	228 (1.1)	224 (1.1)	222 (1.2)	216 (1.1)
TERRITORY						
Guam	188 (1.1)	192 (1.1)	201 (1.2)	189 (0.9)	192 (1.0)	173 (0.8)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 3.6 | Average Proficiency in Mathematics Content Areas (continued)

PUBLIC SCHOOLS	Grade 8 - 1992						Grade 8 - 1990				
	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
NATION	270 (0.9)	264 (1.3)	262 (1.0)	267 (1.2)	266 (1.1)	269 (1.5)	266 (1.3)	258 (1.6)	259 (1.4)	262 (1.6)	260 (1.3)
Northeast	271 (2.7)	265 (3.9)	263 (3.1)	269 (3.5)	266 (2.8)	269 (5.1)	272 (2.9)	267 (4.2)	268 (3.3)	273 (3.9)	268 (3.3)
Southeast	263 (1.2)	253 (1.6)	253 (1.3)	258 (1.7)	259 (1.3)	264 (2.6)	260 (2.8)	248 (2.9)	251 (2.8)	253 (3.2)	256 (2.4)
Central	277 (2.2)	272 (2.7)	269 (2.1)	274 (2.5)	272 (2.5)	274 (2.6)	270 (2.0)	262 (3.0)	261 (2.7)	265 (2.6)	262 (2.4)
West	270 (1.8)	266 (2.8)	263 (2.2)	267 (2.4)	266 (2.6)	270 (2.0)	263 (2.5)	257 (3.2)	260 (2.6)	261 (3.2)	259 (2.6)
STATES											
Alabama	258 (1.4)	245 (2.3)	245 (1.9)	250 (2.1)	253 (1.9)	260 (1.1)	259 (1.1)	248 (1.4)	249 (1.3)	251 (1.5)	252 (1.3)
Arizona	269 (1.2)	264 (2.3)	260 (1.0)	265 (1.7)	264 (1.5) >	269 (1.1)	265 (1.3)	257 (1.6)	256 (1.3)	259 (1.9)	258 (1.5)
Arkansas	262 (1.3)	251 (1.3)	250 (1.5)	254 (1.5)	255 (1.5)	263 (1.3)	262 (0.8)	254 (1.3)	253 (0.9)	255 (1.1)	253 (1.1)
California	263 (1.7)	258 (2.1) >	259 (1.9)	258 (2.2)	258 (2.2)	263 (1.4)	260 (1.3)	252 (1.4)	256 (1.3)	255 (1.6)	256 (1.3)
Colorado	273 (1.1) >	273 (1.6) »	269 (1.1)	274 (1.4)	270 (1.1) >	273 (0.9)	269 (1.0)	265 (1.2)	266 (1.1)	270 (1.1)	266 (1.0)
Connecticut	277 (1.3)	275 (1.6) >	268 (1.0)	274 (1.5)	270 (1.4)	275 (1.1)	274 (1.0)	268 (1.6)	266 (1.1)	271 (1.5)	268 (1.5)
Delaware	267 (1.0)	258 (1.5)	257 (1.1)	262 (1.3)	263 (1.3)	264 (0.9)	265 (0.9)	259 (1.2)	256 (1.1)	262 (1.5)	259 (1.0)
Dist. Columbia	243 (0.8) >	221 (1.6)	231 (1.3)	229 (1.2) >	237 (1.1)	241 (0.8)	239 (0.9)	222 (1.4)	229 (1.1)	223 (1.4)	235 (1.1)
Florida	264 (1.4)	254 (2.1)	255 (1.3)	259 (1.8)	260 (1.6)	264 (1.1)	260 (1.2)	252 (1.5)	251 (1.3)	255 (1.7)	255 (1.5)
Georgia	265 (1.1)	253 (2.1)	253 (1.4)	259 (1.6)	259 (1.4)	263 (0.9)	263 (1.3)	253 (1.5)	257 (1.4)	260 (1.6)	257 (1.5)
Hawaii	261 (0.9) »	254 (1.0) >	257 (1.2) >	249 (1.5) >	256 (1.1) »	260 (0.8)	257 (0.7)	249 (0.9)	252 (0.7)	243 (1.1)	249 (1.0)
Idaho	277 (0.8)	276 (1.4) >	271 (0.9)	274 (1.1)	274 (0.9) >	274 (0.6)	275 (0.8)	269 (1.1)	269 (1.1)	273 (0.8)	270 (0.9)
Indiana	272 (1.3)	269 (1.7)	266 (1.2)	273 (1.5)	267 (1.3)	271 (0.9)	271 (1.1)	265 (2.0)	264 (1.2)	269 (1.3)	265 (1.2)
Iowa	285 (1.0)	287 (1.6) »	278 (1.2)	285 (1.4)	280 (1.2) >	282 (0.9)	282 (1.0)	276 (1.6)	274 (1.3)	280 (1.2)	275 (1.2)
Kentucky	266 (1.1) >	259 (1.3) >	256 (1.1)	262 (1.8)	260 (1.4)	266 (0.9)	261 (1.2)	254 (1.2)	253 (1.3)	258 (1.3)	257 (1.3)
Louisiana	256 (1.6)	242 (2.0)	244 (1.7)	248 (1.9)	249 (1.9)	258 (1.4)	253 (1.2)	241 (1.4)	243 (1.3)	243 (1.6)	246 (1.5)
Maine	280 (1.2)	282 (1.5)	274 (0.9)	282 (1.4)	274 (1.2)	275 (1.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	269 (1.3)	261 (1.7)	259 (1.3)	266 (1.4)	264 (1.6)	264 (1.1)	264 (1.3)	256 (1.7)	257 (1.5)	261 (1.7)	262 (1.6)
Massachusetts	276 (1.0)	270 (1.5)	267 (1.1)	274 (1.5)	271 (1.4)	275 (0.9)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	270 (1.3)	266 (2.0)	261 (1.5)	268 (1.4)	267 (1.6)	268 (1.2)	269 (1.2)	261 (1.5)	261 (1.2)	265 (1.7)	264 (1.3)
Minnesota	282 (1.1)	285 (1.5) »	278 (1.1) >	284 (1.4) >	281 (1.1) »	284 (0.8)	279 (1.1)	272 (1.2)	272 (1.0)	279 (1.1)	274 (1.1)
Mississippi	256 (1.2)	236 (2.1)	239 (1.2)	243 (1.8)	245 (1.6)	259 (1.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	272 (1.3)	271 (1.8)	266 (1.3)	272 (1.6)	270 (1.4)	271 (1.1)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	279 (1.1)	278 (1.7)	274 (1.3)	278 (1.7)	275 (1.5)	277 (1.0)	279 (1.0)	273 (1.6)	273 (1.2)	278 (1.1)	273 (1.0)
New Hampshire	280 (0.9) »	280 (1.9) >	273 (1.0)	281 (1.4) >	274 (1.0)	277 (0.9)	275 (0.9)	272 (1.6)	271 (1.0)	275 (1.2)	272 (1.0)
New Jersey	276 (1.6)	268 (2.2)	265 (1.7)	271 (2.1)	272 (1.8)	274 (1.3)	274 (1.2)	267 (1.4)	266 (1.2)	270 (1.4)	268 (1.4)
New Mexico	263 (1.0) >	257 (1.5)	256 (0.9)	258 (1.4)	257 (1.1)	265 (1.0)	259 (0.8)	254 (1.0)	257 (0.7)	253 (1.3)	257 (0.9)
New York	270 (1.9) >	262 (2.5)	261 (2.4)	268 (2.9)	265 (2.4)	266 (1.8)	264 (1.3)	255 (2.1)	260 (1.5)	263 (1.7)	260 (1.4)
North Carolina	261 (1.3) >	253 (1.8) »	254 (1.4) >	258 (1.4) »	259 (1.5) »	263 (1.0)	256 (1.1)	242 (1.3)	249 (1.1)	248 (1.6)	251 (1.2
North Dakota	286 (1.2)	285 (1.9)	277 (1.3)	286 (1.4)	279 (1.2)	283 (1.0)	286 (1.3)	279 (1.6)	278 (1.3)	285 (1.6)	275 (1.2)
Ohio	272 (1.5)	266 (2.3)	262 (1.3)	270 (2.1)	267 (1.8)	269 (1.1)	269 (1.1)	259 (1.3)	260 (1.1)	266 (1.1)	262 (1.0)
Oklahoma	271 (1.3)	266 (2.3) >	262 (1.3)	269 (1.5)	267 (1.3)	271 (0.9)	268 (1.3)	258 (1.6)	260 (1.4)	264 (2.1)	262 (1.3)
Pennsylvania	274 (1.6)	271 (2.0)	265 (1.5)	273 (1.8)	270 (1.5)	272 (1.3)	270 (1.7)	264 (2.0)	263 (1.7)	268 (1.9)	265 (1.6)
Rhode Island	269 (0.7) »	263 (1.1) »	259 (0.8) >	266 (1.2) »	266 (1.3) >	269 (0.7)	264 (0.6)	257 (0.7)	256 (0.9)	259 (0.7)	261 (0.9
South Carolina	265 (1.0)	257 (1.6)	256 (1.2)	258 (1.4)	259 (1.3)	264 (0.9)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	264 (1.3)	253 (2.0)	252 (1.5)	259 (1.6)	257 (1.7)	264 (1.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	267 (1.4)	260 (1.7) >	262 (1.5)	263 (1.6)	266 (1.4) »	267 (0.9)	262 (1.3)	254 (1.5)	258 (1.4)	257 (1.8)	256 (1.6)
Utah	276 (0.8)	275 (1.3)	269 (1.2)	275 (1.1)	272 (1.0)	274 (0.7)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	272 (1.1)	265 (1.7)	261 (1.3)	268 (1.4)	267 (1.4)	271 (1.1)	268 (1.4)	260 (1.8)	261 (1.6)	264 (1.9)	265 (1.6)
West Virginia	263 (1.0)	256 (1.6)	254 (1.1)	260 (1.2)	257 (1.3)	263 (0.8)	260 (1.0)	253 (1.2)	254 (1.0)	256 (1.6)	254 (1.1)
Wisconsin	280 (1.5)	279 (2.0)	272 (1.6)	280 (2.1)	275 (1.6)	278 (1.1)	278 (1.4)	273 (1.6)	272 (1.5)	277 (1.4)	271 (1.2)
Wyoming	276 (0.8)	278 (1.2) »	272 (0.7)	275 (1.3)	271 (1.2)	276 (0.9)	275 (0.7)	270 (0.8)	270 (0.7)	273 (1.0)	270 (0.8)
TERRITORIES											
Guam	240 (1.3)	228 (1.6)	239 (1.4)	221 (1.9) >	235 (1.1) >	244 (1.1)	240 (0.7)	229 (1.3)	236 (1.1)	214 (1.2)	230 (1.0)
Virgin Islands	231 (1.0)	211 (1.7)	222 (0.8)	214 (2.5) »	221 (1.2)	231 (1.5)	229 (1.0)	216 (2.0)	223 (1.3)	196 (2.0)	219 (1.5)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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FIGURE 3.3 Average Proficiency by Mathematics Subscales for Five Performance Bands (Quintiles) 1992 Grades 4 and 8

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	GRADE 4							GRADE 8						
	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
Alabama (AL)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Arizona (AZ)	2	2	2	3	2	2	3	3	3	3	3	3	3	3
Arkansas (AR)	1	1	1	1	1	1	1	1	1	1	1	1	1	2
California (CA)	1	1	1	1	1	1	2	2	2	2	3	2	2	1
Colorado (CO)	■	3	3	■	3	■	■	■	■	■	■	■	■	■
Connecticut (CT)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Delaware (DE)	3	3	3	3	3	3	2	2	3	2	2	2	2	2
District of Columbia (DC)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Florida (FL)	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Georgia (GA)	3	2	2	2	3	3	2	2	2	1	1	2	2	2
Hawaii (HI)	2	2	2	2	2	2	1	1	1	2	2	1	1	1
Idaho (ID)	■	■	■	■	3	3	■	■	■	■	■	■	■	■
Indiana (IN)	■	3	■	■	■	■	3	■	■	■	■	■	3	■
Iowa (IA)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Kentucky (KY)	2	2	2	1	2	2	3	2	2	2	2	2	2	3
Louisiana (LA)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Massachusetts (MA)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Maryland (MD)	3	3	3	3	3	3	2	3	3	3	2	3	3	2
Maine (ME)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Michigan (MI)	3	3	■	3	3	3	3	3	3	■	3	3	3	3
Minnesota (MN)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Mississippi (MS)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Missouri (MO)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Nebraska (NE)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
New Hampshire (NH)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
New Jersey (NJ)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
New Mexico (NM)	2	1	2	3	2	2	2	2	2	2	2	2	2	2
New York (NY)	3	3	3	2	3	3	3	3	3	3	3	3	3	3
North Carolina (NC)	2	2	1	2	2	2	1	1	1	2	2	1	2	1
North Dakota (ND)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Ohio (OH)	3	3	3	3	3	3	3	■	3	3	3	■	3	3
Oklahoma (OK)	3	■	3	3	■	■	■	3	3	3	■	3	■	■
Pennsylvania (PA)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Rhode Island (RI)	2	3	2	2	2	2	3	3	3	3	3	3	3	3
South Carolina (SC)	1	2	2	2	1	1	1	2	2	2	2	2	2	2
Tennessee (TN)	1	1	1	1	1	1	2	2	2	1	1	2	2	2
Texas (TX)	3	3	3	3	3	3	2	3	2	3	3	3	3	3
Utah (UT)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Virginia (VA)	3	■	3	3	■	3	3	3	■	3	3	3	■	3
West Virginia (WV)	2	2	3	2	2	2	3	2	2	2	2	2	1	2
Wisconsin (WI)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Wyoming (WY)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Guam (GU)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Virgin Islands (VI)	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	1	1	1	1	1	1	1

Quintiles of Performance

bottom 20 percent				top 20 percent
1	2	3	■	■
1st	2nd	3rd	4th	5th

lower ← proficiency → higher

States categorized in the bottom 20 percent of performance have average mathematics proficiencies in the lowest fifth of the average mathematics proficiency distribution of all states and are indicated by the number 1 (first quintile). States with average proficiencies in the top 20 percent of the distribution are indicated by the number 5 (fifth quintile). The numbers 2, 3, and 4 indicate states with average proficiencies in the second, third, and fourth fifths of the distribution.

NA Grade 4 data for the Virgin Islands are not available.

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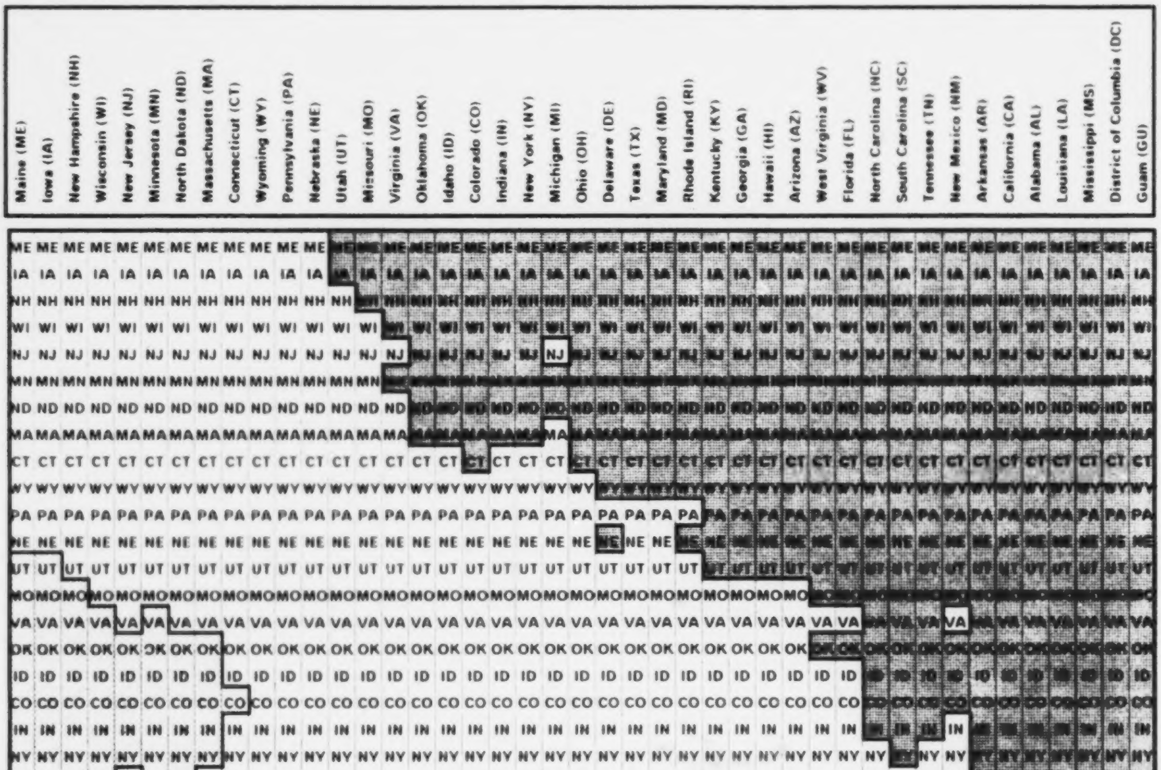
FIGURE 3.4 | Comparisons of Numbers and Operations Average Proficiency 1992 Grade 4

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.



▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

FIGURE 3.5

Comparisons of Numbers and Operations Average Proficiency
1992 Grade 8

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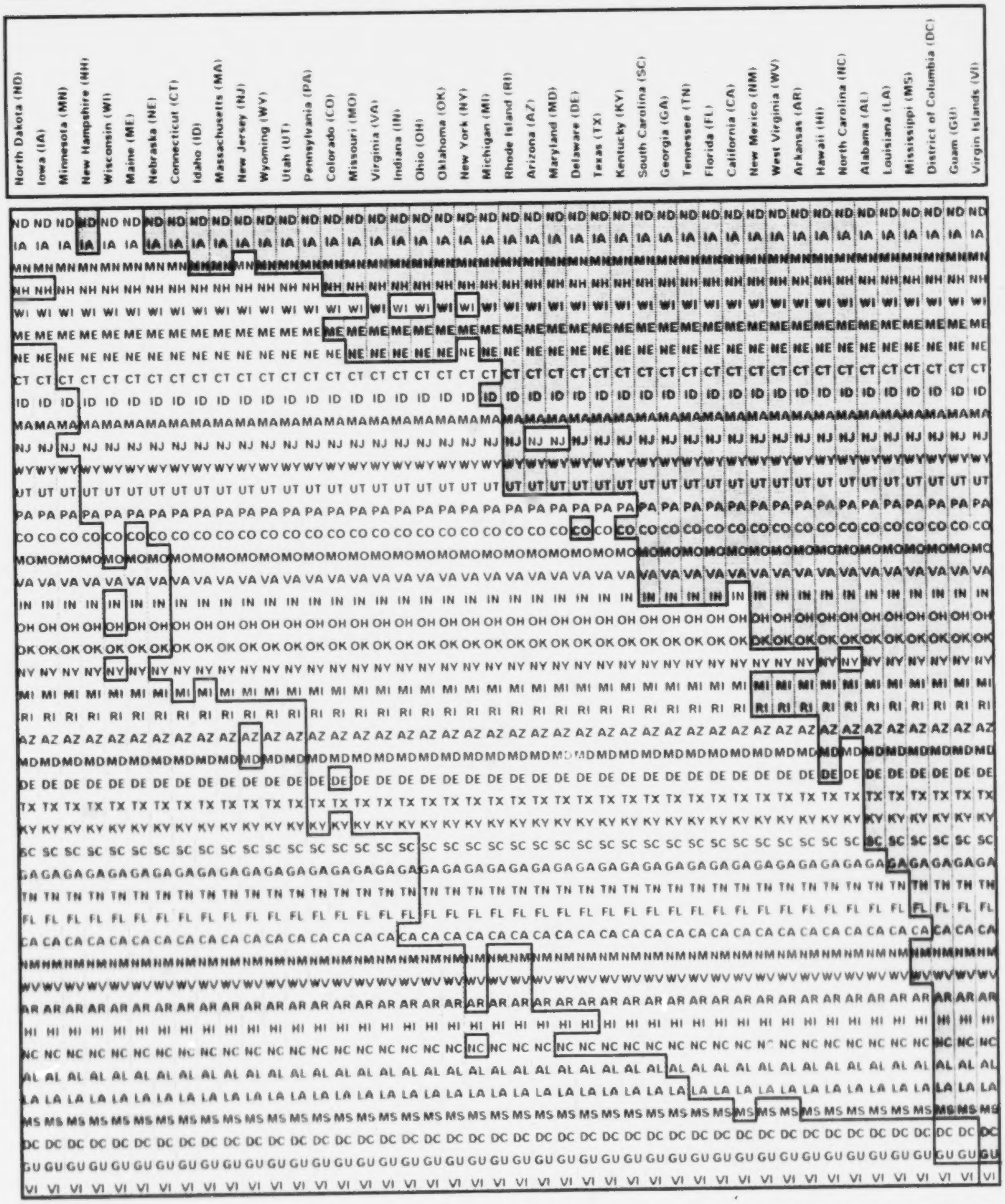
INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.


North Dakota (ND)
Iowa (IA)
Minnesota (MN)
New Hampshire (NH)
Wisconsin (WI)
Maine (ME)
Nebraska (NE)
Connecticut (CT)
Idaho (ID)
Massachusetts (MA)
New Jersey (NJ)
Wyoming (WY)
Utah (UT)
Pennsylvania (PA)
Colorado (CO)
Missouri (MO)
Virginia (VA)
Indiana (IN)
Ohio (OH)
Oklahoma (OK)
New York (NY)
Michigan (MI)
Rhode Island (RI)
Arizona (AZ)
Maryland (MD)
Delaware (DE)
Texas (TX)
Kentucky (KY)
South Carolina (SC)
Georgia (GA)
Tennessee (TN)
Florida (FL)
California (CA)
New Mexico (NM)
West Virginia (WV)
Arkansas (AR)
Hawaii (HI)
North Carolina (NC)
Alabama (AL)
Louisiana (LA)
Mississippi (MS)
District of Columbia (DC)
Guam (GU)
Virgin Islands (VI)
ND
IA
MN
NH
WI
ME
NE
CT
ID
MA
NJ
WY
UT
PA
CO
MO
VA
IN
OH
OK
NY
MI
RI
AZ
MD
DE
TX
KY
SC
GA
TN
FL
CA
NM
WV
AR
HI
NC
AL
LA
MS
DC
GU
VI

☐ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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TABLE 3.7 | Percentiles of Proficiency in Numbers and Operations

PUBLIC SCHOOLS	Grade 4 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	214 (0.9)	154 (1.3)	168 (1.2)	191 (1.2)	215 (1.1)	239 (0.9)	259 (1.4)	270 (1.8)
Northeast	220 (2.2)	157 (5.3)	172 (2.5)	196 (2.9)	222 (3.4)	246 (2.7)	265 (2.9)	277 (4.4)
Southeast	205 (2.0)	148 (1.6)	159 (2.7)	182 (2.5)	206 (2.5)	228 (2.0)	249 (3.0)	261 (4.8)
Central	219 (2.3)	163 (3.3)	176 (3.4)	197 (3.0)	220 (3.7)	241 (1.3)	260 (1.5)	271 (3.4)
West	214 (1.8)	155 (2.5)	167 (2.2)	190 (2.0)	216 (2.4)	238 (2.7)	258 (3.1)	270 (3.3)
STATES								
Alabama	204 (1.8)	146 (2.6)	158 (3.6)	179 (2.1)	204 (2.6)	229 (2.1)	249 (2.2)	260 (2.4)
Arizona	210 (1.4)	152 (1.7)	164 (1.9)	187 (1.8)	212 (1.6)	234 (1.6)	254 (2.1)	265 (1.4)
Arkansas	205 (1.1)	147 (2.8)	160 (1.8)	182 (2.0)	206 (1.4)	229 (1.6)	249 (1.2)	260 (1.7)
California	204 (1.8)	138 (1.6)	153 (2.8)	178 (1.6)	206 (2.5)	231 (2.4)	253 (2.4)	265 (2.8)
Colorado	216 (1.1)	158 (3.4)	172 (2.5)	193 (1.4)	217 (1.2)	239 (1.4)	258 (1.2)	270 (1.9)
Connecticut	223 (1.3)	164 (3.7)	177 (1.6)	200 (1.0)	224 (1.9)	247 (1.3)	267 (1.5)	278 (2.5)
Delaware	214 (0.9)	156 (2.6)	168 (1.4)	190 (1.0)	214 (1.1)	239 (1.2)	261 (2.5)	273 (2.6)
Dist. Columbia	189 (0.7)	134 (1.6)	146 (0.9)	166 (0.8)	187 (0.9)	210 (1.2)	234 (2.0)	251 (3.1)
Florida	208 (1.6)	148 (3.7)	162 (2.1)	185 (2.3)	210 (2.0)	232 (1.8)	253 (1.8)	264 (3.2)
Georgia	211 (1.3)	150 (2.4)	163 (2.1)	186 (1.2)	212 (1.6)	236 (3.4)	257 (2.2)	268 (1.3)
Hawaii	211 (1.4)	148 (2.5)	162 (2.8)	185 (1.6)	212 (2.1)	236 (1.0)	257 (1.3)	268 (2.0)
Idaho	216 (1.3)	163 (4.0)	175 (1.9)	196 (1.3)	218 (1.4)	238 (1.1)	255 (1.9)	265 (1.8)
Indiana	216 (1.3)	165 (4.0)	175 (2.4)	194 (1.7)	216 (1.2)	237 (1.2)	256 (2.0)	268 (2.7)
Iowa	227 (1.3)	172 (2.7)	185 (1.6)	206 (1.7)	228 (1.1)	250 (1.2)	267 (1.3)	277 (1.9)
Kentucky	211 (1.2)	158 (2.2)	170 (2.3)	189 (1.3)	211 (0.9)	233 (1.6)	254 (3.2)	266 (1.7)
Louisiana	199 (1.5)	142 (2.9)	154 (2.3)	176 (2.0)	200 (1.8)	223 (2.3)	244 (1.5)	256 (2.1)
Maine	227 (1.4)	176 (3.1)	188 (1.8)	207 (1.2)	228 (1.8)	248 (2.2)	264 (2.0)	274 (3.0)
Maryland	214 (1.4)	150 (2.0)	163 (1.6)	187 (2.0)	215 (1.1)	241 (1.0)	262 (1.6)	274 (1.4)
Massachusetts	224 (1.2)	167 (2.0)	180 (2.2)	202 (1.6)	225 (1.4)	246 (1.7)	265 (2.4)	275 (1.0)
Michigan	215 (1.9)	151 (4.5)	167 (2.9)	192 (2.1)	217 (1.6)	241 (1.7)	259 (2.8)	270 (2.9)
Minnesota	225 (1.2)	164 (1.9)	179 (1.9)	203 (2.0)	227 (1.3)	249 (1.2)	267 (1.4)	278 (1.4)
Mississippi	198 (1.3)	141 (2.7)	154 (2.9)	175 (1.8)	199 (1.5)	223 (1.3)	242 (2.1)	254 (2.0)
Missouri	217 (1.4)	162 (2.8)	175 (2.1)	195 (2.4)	218 (1.6)	241 (1.3)	260 (1.7)	270 (2.8)
Nebraska	221 (1.5)	165 (2.1)	177 (1.7)	199 (2.3)	223 (1.2)	244 (2.0)	263 (2.2)	273 (1.1)
New Hampshire	225 (1.3)	172 (3.3)	185 (1.6)	205 (1.6)	226 (1.8)	248 (1.8)	265 (1.8)	276 (2.0)
New Jersey	225 (1.6)	167 (3.2)	181 (2.8)	203 (2.3)	227 (1.9)	248 (1.4)	266 (1.8)	276 (1.8)
New Mexico	207 (1.8)	149 (2.5)	162 (1.7)	183 (2.3)	208 (2.0)	231 (2.2)	252 (2.1)	265 (3.0)
New York	215 (1.4)	154 (2.1)	169 (3.1)	192 (1.3)	216 (1.7)	239 (1.8)	259 (1.4)	271 (1.6)
North Carolina	208 (1.3)	147 (1.6)	160 (1.5)	182 (1.3)	210 (1.8)	234 (1.1)	254 (1.5)	267 (2.2)
North Dakota	224 (0.9)	173 (1.8)	185 (1.8)	204 (1.3)	225 (1.1)	245 (1.0)	262 (2.0)	271 (1.7)
Ohio	214 (1.4)	157 (1.8)	170 (2.6)	191 (1.0)	215 (1.6)	238 (1.5)	258 (1.8)	270 (2.0)
Oklahoma	216 (1.1)	166 (2.1)	178 (1.1)	196 (1.7)	217 (1.3)	237 (1.5)	255 (1.5)	265 (1.5)
Pennsylvania	221 (1.6)	163 (2.9)	176 (2.0)	199 (1.9)	223 (2.1)	245 (1.7)	263 (1.7)	273 (3.1)
Rhode Island	212 (1.7)	154 (3.8)	168 (1.8)	190 (2.6)	214 (1.7)	235 (1.9)	254 (2.3)	265 (3.1)
South Carolina	208 (1.2)	151 (2.2)	164 (1.9)	184 (1.0)	208 (1.9)	232 (1.7)	253 (2.1)	264 (1.9)
Tennessee	207 (1.5)	151 (1.9)	163 (2.3)	184 (1.9)	208 (2.1)	231 (1.7)	250 (1.6)	261 (2.4)
Texas	214 (1.4)	157 (1.4)	170 (2.2)	191 (1.7)	214 (1.8)	237 (1.5)	257 (2.1)	270 (2.1)
Utah	219 (1.2)	164 (2.2)	177 (2.1)	198 (1.8)	221 (1.3)	241 (1.3)	260 (1.5)	270 (1.0)
Virginia	217 (1.6)	159 (1.6)	171 (2.6)	193 (2.4)	217 (1.9)	241 (1.6)	262 (2.7)	274 (3.0)
West Virginia	210 (1.2)	153 (1.6)	166 (1.2)	187 (1.1)	210 (1.1)	233 (1.8)	253 (2.0)	266 (2.5)
Wisconsin	225 (1.3)	169 (2.4)	182 (2.4)	203 (1.3)	227 (1.6)	248 (1.3)	266 (1.5)	276 (2.2)
Wyoming	221 (1.1)	169 (3.0)	182 (1.5)	202 (1.2)	222 (1.5)	242 (1.1)	259 (1.6)	268 (1.0)
TERRITORY								
Guam	188 (1.1)	125 (2.8)	138 (1.8)	162 (1.3)	188 (1.5)	214 (1.7)	236 (2.5)	250 (2.0)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 3.7 | Percentiles of Proficiency in Numbers and Operations (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	270 (0.9)	211 (1.5)	223 (0.8)	246 (0.9)	271 (1.3)	295 (1.0)	315 (1.4)	326 (1.5)
Northeast	271 (2.7)	211 (4.1)	223 (1.7)	246 (2.9)	270 (3.7)	297 (3.4)	319 (2.5)	330 (2.4)
Southeast	263 (1.2)	207 (1.9)	219 (2.2)	239 (1.5)	264 (1.8)	287 (1.7)	306 (1.5)	316 (3.6)
Central	277 (2.2)	218 (3.8)	232 (2.1)	255 (2.8)	279 (3.3)	300 (1.7)	317 (2.1)	327 (2.2)
West	270 (1.8)	209 (2.5)	223 (2.3)	246 (2.4)	271 (2.1)	295 (1.2)	316 (2.8)	328 (3.0)
STATES								
Alabama	258 (1.4)	202 (2.0)	215 (1.4)	235 (1.7)	258 (1.8)	282 (1.9)	303 (2.0)	315 (2.8)
Arizona	269 (1.2)	215 (3.0)	227 (1.5)	247 (1.6)	269 (1.2)	291 (1.3)	310 (1.1)	322 (1.9)
Arkansas	262 (1.3)	205 (2.7)	218 (1.8)	240 (1.7)	263 (1.5)	285 (1.2)	304 (1.1)	316 (2.8)
California	263 (1.7)	197 (3.7)	211 (1.7)	236 (2.3)	265 (2.3)	292 (1.4)	313 (2.0)	326 (4.1)
Colorado	273 (1.1) >	215 (2.3)	229 (1.7)	252 (2.1)	275 (1.3)	297 (1.6)	314 (1.3)	324 (1.5)
Connecticut	277 (1.3)	216 (5.1)	231 (2.6)	255 (1.8)	279 (0.9) >	302 (1.7)	320 (1.6)	329 (2.0)
Delaware	267 (1.0)	209 (2.8)	223 (2.7)	245 (1.3)	267 (1.3)	290 (1.8)	310 (2.1)	322 (1.8)
Dist. Columbia	243 (0.8) >	186 (1.7)	199 (0.9)	218 (1.1)	242 (1.1)	267 (1.6) »	287 (1.2) >	301 (3.0)
Florida	264 (1.4)	203 (0.9)	216 (2.8)	239 (1.7)	265 (1.1) >	290 (1.6) >	310 (1.6)	321 (1.5)
Georgia	265 (1.1)	210 (2.6)	222 (1.6)	241 (1.1)	265 (1.4)	288 (1.4)	307 (2.1)	318 (1.8)
Hawaii	261 (0.9) »	199 (4.4)	213 (2.2)	236 (1.1) »	262 (1.3)	287 (1.9)	308 (1.1)	319 (2.1)
Idaho	277 (0.8)	226 (2.7)	238 (1.3)	258 (0.7)	278 (1.1)	297 (1.2)	314 (1.6)	323 (1.8)
Indiana	272 (1.3)	218 (2.2)	230 (2.8)	251 (1.3)	272 (1.7)	294 (1.6)	313 (2.6)	324 (1.5)
Iowa	285 (1.0)	237 (1.1)	249 (1.5)	266 (1.2)	286 (0.9)	305 (1.2)	321 (1.2)	329 (1.6)
Kentucky	266 (1.1) >	210 (1.7)	222 (1.7)	243 (0.9)	267 (1.4) >	289 (1.4)	309 (2.0)	322 (2.1)
Louisiana	256 (1.6)	200 (2.8)	213 (1.9)	235 (2.2)	257 (1.8)	279 (2.1)	298 (2.2)	309 (2.0)
Maine	280 (1.2)	228 (3.4)	241 (1.7)	261 (1.4)	281 (1.1)	300 (1.6)	317 (1.5)	327 (1.6)
Maryland	269 (1.3)	206 (2.4)	219 (1.6)	243 (1.5)	270 (1.2)	296 (1.6)	314 (1.9)	326 (1.5)
Massachusetts	276 (1.0)	222 (1.4)	234 (1.9)	254 (1.4)	277 (1.3)	300 (1.4)	317 (1.2)	327 (2.2)
Michigan	270 (1.3)	212 (1.7)	226 (1.8)	247 (1.4)	271 (1.5)	294 (1.4)	313 (1.7)	324 (2.5)
Minnesota	282 (1.1)	233 (1.9) >	244 (1.6)	263 (1.3)	284 (1.7)	303 (1.1)	319 (2.0)	329 (1.8)
Mississippi	256 (1.2)	203 (2.8)	215 (1.6)	234 (1.9)	256 (1.2)	279 (1.4)	297 (2.0)	308 (0.7)
Missouri	272 (1.3)	217 (3.5)	229 (2.8)	251 (1.9)	275 (1.3)	295 (1.3)	313 (1.6)	323 (2.6)
Nebraska	279 (1.1)	223 (1.2)	238 (2.2)	260 (1.3)	282 (1.5)	301 (1.7)	317 (1.9)	326 (2.3)
New Hampshire	280 (0.9) »	228 (0.9)	240 (1.1)	260 (1.0) >	281 (0.8) »	301 (1.3)	319 (1.7)	328 (3.3)
New Jersey	276 (1.6)	217 (3.7)	231 (2.6)	254 (2.0)	277 (2.3)	300 (2.0)	320 (2.1)	330 (2.0)
New Mexico	263 (1.0) >	207 (2.1)	220 (2.3)	241 (1.2)	263 (1.4)	286 (1.1)	305 (1.5)	316 (2.3)
New York	270 (1.9) >	204 (5.8)	220 (3.6)	247 (2.8)	273 (2.5)	297 (1.3) »	317 (1.9)	329 (2.0)
North Carolina	261 (1.3) >	202 (4.1)	216 (1.8)	237 (1.4)	262 (1.8)	286 (1.6) >	306 (2.2)	317 (2.3)
North Dakota	286 (1.2)	238 (2.4)	250 (1.8)	268 (1.3)	287 (1.2)	305 (1.3)	320 (1.4)	329 (1.5)
Ohio	272 (1.5)	213 (3.1)	227 (3.4)	249 (2.3)	273 (1.5)	295 (1.5)	314 (1.8)	325 (1.8)
Oklahoma	271 (1.3)	215 (2.8)	230 (1.7)	251 (2.4)	273 (1.6)	294 (1.2)	311 (1.9)	320 (1.9)
Pennsylvania	274 (1.6)	219 (4.5)	231 (2.3)	252 (1.5)	275 (1.8)	296 (1.5)	315 (2.4)	324 (1.6)
Rhode Island	269 (0.7) »	213 (3.1)	226 (1.5) »	248 (1.7) >	271 (1.5) >	293 (1.5)	310 (1.5)	320 (1.5)
South Carolina	265 (1.0)	211 (2.4)	222 (2.0)	242 (1.7)	265 (1.0)	289 (0.9)	309 (1.4)	321 (1.3)
Tennessee	264 (1.3)	209 (2.7)	222 (1.7)	242 (1.6)	265 (1.9)	288 (1.7)	306 (1.6)	316 (2.0)
Texas	267 (1.4)	207 (2.4)	220 (2.4)	241 (1.4)	267 (1.5)	292 (1.8)	313 (1.9)	326 (2.4)
Utah	276 (0.8)	221 (2.9)	234 (2.6)	255 (0.9)	278 (1.4)	299 (1.3)	315 (1.9)	325 (1.4)
Virginia	272 (1.1)	216 (1.9)	229 (2.0)	249 (1.4) >	273 (1.2)	296 (1.2)	315 (1.6)	326 (1.5)
West Virginia	263 (1.0)	211 (1.5)	223 (1.1)	241 (1.3)	263 (1.1)	285 (1.2)	302 (1.3)	312 (1.2)
Wisconsin	280 (1.5)	225 (2.7)	238 (2.1)	260 (1.5)	281 (1.5)	301 (1.4)	319 (1.5)	328 (1.2)
Wyoming	276 (0.8)	226 (1.5)	238 (1.1)	256 (1.2)	277 (1.3)	297 (1.1)	313 (1.4)	323 (1.6)
TERRITORIES								
Guam	240 (1.3)	174 (3.0)	187 (2.8)	211 (1.6)	239 (2.1)	268 (1.6)	293 (1.5)	306 (2.1)
Virgin Islands	231 (1.0)	180 (1.4)	190 (1.5)	209 (1.7)	232 (1.7)	253 (1.3)	272 (1.7)	283 (1.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 3.7 | Percentiles of Proficiency in Numbers and Operations (continued)

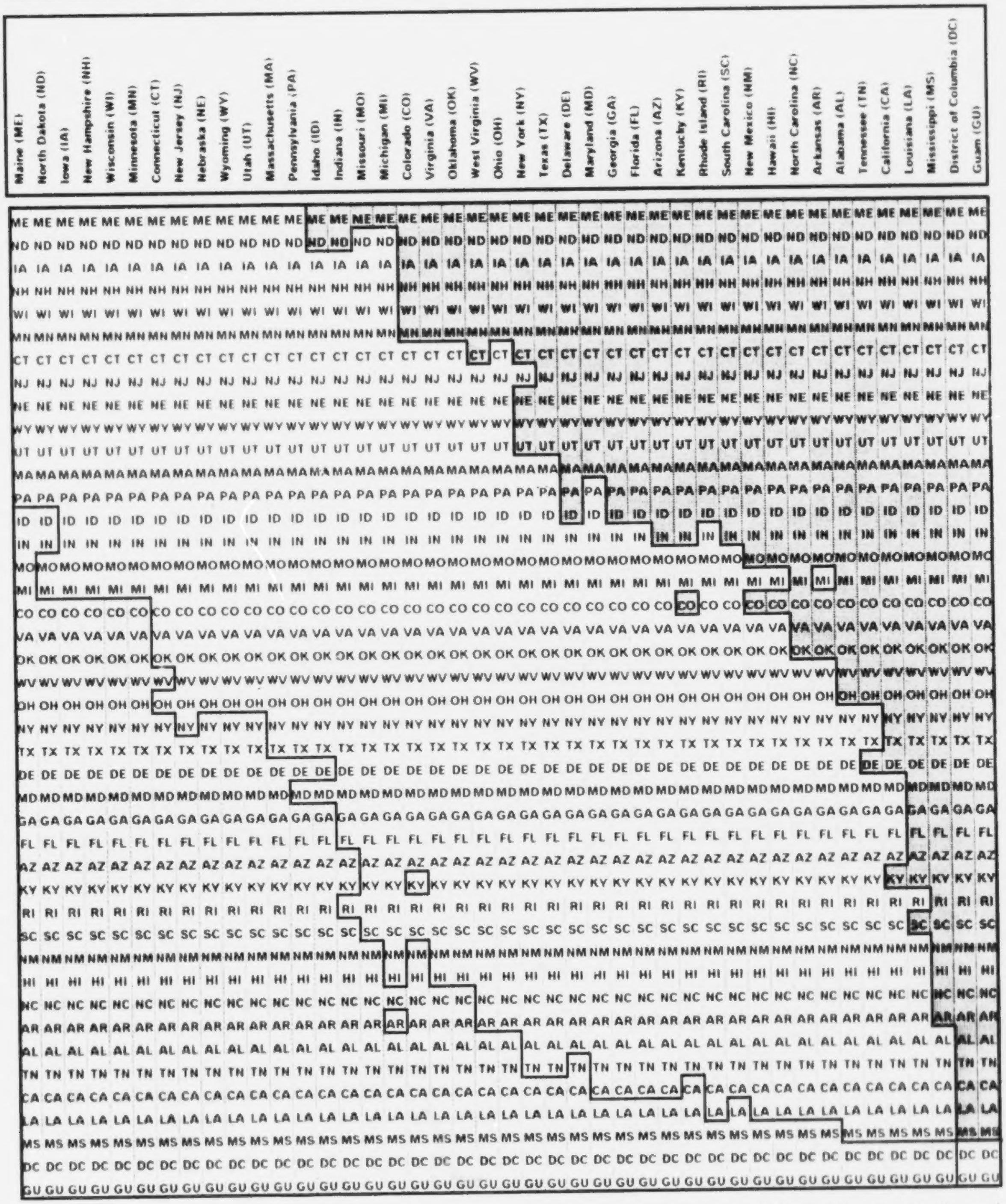
PUBLIC SCHOOLS	Grade 8 - 1990							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	266 (1.3)	206 (2.3)	220 (2.4)	242 (2.3)	267 (1.2)	291 (1.4)	309 (1.3)	320 (1.9)
Northeast	272 (2.9)	216 (9.3)	231 (3.0)	250 (4.1)	273 (4.0)	297 (3.2)	313 (4.4)	323 (3.7)
Southeast	260 (2.8)	200(10.7)	214 (3.6)	234 (5.9)	260 (2.9)	286 (3.2)	305 (4.3)	318 (2.7)
Central	270 (2.0)	214 (5.5)	226 (4.4)	248 (5.4)	272 (5.9)	293 (1.7)	309 (2.1)	319 (3.6)
West	263 (2.5)	203 (3.0)	217 (4.8)	239 (1.9)	264 (2.3)	288 (3.0)	310 (4.9)	322 (4.3)
STATES								
Alabama	259 (1.1)	204 (2.2)	216 (2.2)	236 (2.3)	259 (1.2)	282 (1.8)	302 (2.1)	314 (2.6)
Arizona	265 (1.3)	207 (2.6)	220 (2.5)	242 (1.5)	265 (1.9)	288 (1.5)	308 (1.7)	319 (2.7)
Arkansas	262 (0.8)	210 (1.6)	222 (1.5)	242 (0.7)	263 (1.0)	284 (1.0)	303 (1.[illegible])	313 (1.9)
California	260 (1.3)	197 (2.9)	211 (1.5)	234 (2.1)	260 (1.6)	286 (2.1)	308 (1.8)	320 (1.7)
Colorado	269 (1.0)	213 (0.9)	226 (1.4)	248 (1.2)	270 (1.5)	292 (1.4)	311 (1.7)	322 (1.4)
Connecticut	274 (1.0)	213 (2.0)	227 (1.4)	250 (1.1)	275 (1.1)	299 (1.1)	318 (1.1)	329 (2.1)
Delaware	265 (0.9)	207 (1.4)	221 (2.3)	241 (2.0)	265 (1.5)	290 (1.9)	311 (1.9)	323 (2.7)
Dist. Columbia	239 (0.9)	189 (2.0)	199 (1.9)	218 (1.5)	238 (0.9)	258 (0.9)	279 (2.3)	292 (2.6)
Florida	260 (1.2)	203 (1.3)	216 (1.5)	237 (1.8)	260 (1.3)	283 (1.1)	306 (2.0)	319 (1.0)
Georgia	263 (1.3)	206 (2.5)	218 (1.0)	239 (1.5)	264 (1.8)	287 (2.3)	308 (1.7)	322 (3.3)
Hawaii	257 (0.7)	194 (1.9)	207 (1.7)	229 (1.2)	257 (1.2)	284 (1.5)	306 (1.4)	319 (1.1)
Idaho	275 (0.8)	222 (1.5)	235 (2.1)	254 (1.5)	276 (1.0)	296 (1.0)	313 (1.2)	322 (1.2)
Indiana	271 (1.1)	217 (2.5)	228 (1.8)	249 (1.3)	271 (1.3)	293 (1.4)	313 (1.4)	325 (2.3)
Iowa	282 (1.0)	232 (1.7)	243 (1.4)	262 (1.4)	283 (1.0)	303 (1.1)	321 (1.5)	331 (1.2)
Kentucky	261 (1.2)	209 (2.1)	221 (2.3)	240 (1.9)	261 (1.5)	283 (1.3)	303 (1.5)	315 (1.5)
Louisiana	253 (1.2)	203 (2.5)	215 (1.6)	233 (1.2)	253 (1.2)	273 (1.6)	293 (2.1)	304 (1.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	264 (1.3)	204 (1.2)	217 (1.3)	239 (1.6)	265 (1.3)	290 (2.3)	311 (2.1)	324 (2.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	269 (1.2)	212 (1.3)	224 (1.5)	245 (1.1)	269 (1.4)	292 (1.6)	312 (1.7)	325 (1.6)
Minnesota	279 (1.1)	223 (2.2)	237 (1.8)	258 (1.1)	281 (0.8)	301 (1.0)	319 (1.2)	330 (2.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	279 (1.0)	223 (2.9)	238 (1.6)	259 (1.9)	281 (1.4)	301 (1.2)	319 (1.8)	329 (1.4)
New Hampshire	275 (0.9)	224 (2.4)	235 (1.6)	254 (1.3)	275 (0.8)	296 (1.2)	314 (2.0)	325 (2.5)
New Jersey	274 (1.2)	217 (2.4)	229 (1.8)	250 (2.2)	274 (2.0)	298 (1.5)	319 (1.6)	331 (1.6)
New Mexico	259 (0.8)	205 (0.9)	217 (1.2)	236 (1.6)	259 (0.9)	281 (1.1)	302 (1.5)	313 (1.1)
New York	264 (1.3)	202 (2.9)	217 (2.7)	240 (3.0)	265 (1.3)	288 (1.5)	309 (1.8)	322 (2.4)
North Carolina	256 (1.1)	201 (1.1)	212 (1.4)	232 (1.7)	256 (1.5)	279 (1.4)	299 (1.2)	310 (2.6)
North Dakota	286 (1.3)	235 (4.0)	248 (1.3)	268 (2.1)	287 (1.7)	306 (1.6)	323 (1.5)	333 (3.0)
Ohio	269 (1.1)	214 (1.4)	226 (2.0)	247 (1.3)	269 (1.3)	291 (1.3)	311 (1.9)	322 (2.5)
Oklahoma	268 (1.3)	214 (2.3)	227 (1.8)	247 (1.2)	268 (1.4)	290 (1.8)	309 (2.3)	319 (3.2)
Pennsylvania	270 (1.7)	215 (2.1)	227 (2.4)	249 (2.3)	271 (2.1)	293 (2.0)	310 (2.0)	321 (1.7)
Rhode Island	264 (0.6)	204 (1.7)	218 (0.8)	240 (0.9)	265 (0.7)	290 (1.1)	310 (0.9)	322 (2.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	262 (1.3)	207 (2.4)	219 (2.9)	239 (1.1)	262 (1.6)	286 (1.2)	306 (1.9)	318 (2.6)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	268 (1.4)	212 (1.5)	224 (1.9)	243 (1.2)	267 (1.7)	291 (1.9)	314 (2.4)	329 (3.3)
West Virginia	260 (1.0)	208 (2.0)	220 (1.7)	239 (1.3)	260 (1.1)	281 (1.5)	301 (1.6)	313 (1.7)
Wisconsin	278 (1.4)	223 (2.4)	235 (2.7)	257 (1.6)	279 (1.1)	300 (1.7)	318 (1.8)	329 (1.3)
Wyoming	275 (0.7)	225 (1.9)	237 (1.8)	256 (1.1)	276 (1.0)	295 (0.9)	312 (1.2)	323 (2.7)
TERRITORIES								
Guam	240 (0.7)	182 (1.3)	194 (1.4)	215 (1.1)	239 (1.0)	265 (1.2)	288 (2.2)	301 (0.8)
Virgin Islands	229 (1.0)	181 (2.0)	190 (2.0)	209 (1.1)	228 (1.6)	248 (1.4)	266 (2.2)	278 (3.4)

(xxx) Did not participate in the 1990 Trial State Assessment.

FIGURE 3.6

Comparisons of Measurement Average Proficiency 1992 Grade 4

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.



▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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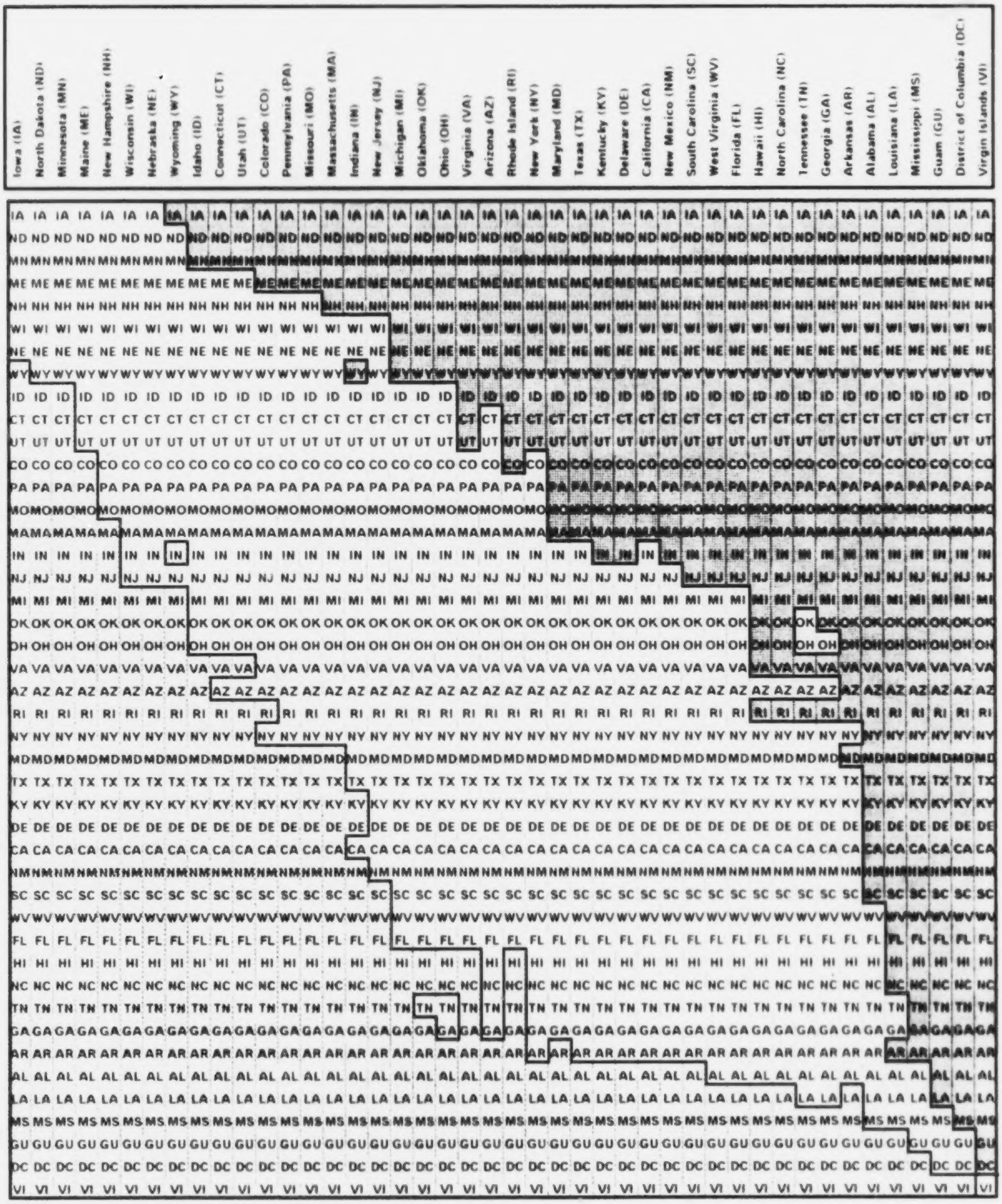
FIGURE 3.7 | Comparisons of Measurement Average Proficiency 1992 Grade 8

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.



▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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TABLE 3.8 | Percentiles of Proficiency in Measurement

PUBLIC SCHOOLS	Grade 4 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	222 (0.9)	162 (1.8)	176 (1.3)	199 (1.1)	224 (0.9)	247 (1.6)	266 (1.3)	277 (1.4)
Northeast	227 (2.3)	166 (2.9)	181 (3.1)	203 (3.2)	229 (3.5)	252 (3.0)	271 (3.6)	281 (3.0)
Southeast	214 (2.1)	155 (4.0)	169 (2.8)	191 (1.7)	215 (2.4)	237 (1.9)	257 (3.1)	269 (3.6)
Central	228 (2.4)	169 (3.7)	184 (4.6)	208 (4.4)	230 (2.3)	251 (2.0)	269 (2.6)	280 (2.6)
West	221 (1.6)	160 (4.3)	173 (2.4)	198 (1.9)	223 (2.1)	245 (2.0)	265 (2.6)	276 (2.6)
STATES								
Alabama	213 (1.7)	157 (2.1)	169 (1.7)	190 (1.4)	213 (2.0)	237 (2.4)	258 (2.3)	268 (2.3)
Arizona	219 (1.3)	161 (3.7)	174 (1.7)	196 (1.9)	220 (1.3)	242 (1.5)	262 (1.6)	272 (2.4)
Arkansas	215 (1.7)	161 (2.1)	173 (3.2)	193 (2.3)	216 (2.1)	237 (2.0)	255 (1.8)	265 (1.4)
California	210 (1.8)	140 (3.1)	156 (3.7)	183 (2.7)	212 (2.0)	237 (2.3)	260 (2.1)	273 (2.6)
Colorado	225 (1.2)	167 (3.8)	181 (1.8)	203 (2.0)	227 (1.5)	249 (1.0)	267 (1.5)	279 (1.5)
Connecticut	230 (1.2)	171 (2.4)	185 (2.8)	208 (1.3)	232 (0.8)	255 (1.4)	273 (1.9)	284 (1.3)
Delaware	220 (0.9)	163 (1.9)	175 (2.1)	197 (1.2)	221 (1.3)	244 (1.0)	265 (2.0)	276 (2.2)
Dist. Columbia	193 (0.9)	139 (1.8)	150 (2.1)	169 (1.6)	191 (1.1)	214 (0.8)	237 (2.2)	254 (2.2)
Florida	219 (1.8)	159 (3.2)	173 (3.2)	196 (1.8)	220 (1.8)	243 (2.4)	263 (2.5)	275 (3.3)
Georgia	219 (1.5)	163 (2.1)	175 (2.1)	196 (1.6)	220 (1.2)	242 (2.0)	263 (2.6)	274 (2.1)
Hawaii	216 (1.7)	154 (2.6)	168 (3.6)	192 (1.7)	217 (1.5)	241 (1.4)	262 (1.7)	274 (3.2)
Idaho	227 (1.0)	175 (2.4)	187 (1.6)	208 (1.5)	229 (1.0)	249 (0.9)	265 (1.2)	275 (1.8)
Indiana	226 (1.4)	177 (2.6)	188 (2.0)	206 (1.8)	226 (2.0)	247 (1.8)	265 (1.8)	275 (2.3)
Iowa	234 (1.4)	179 (2.4)	194 (1.4)	215 (1.5)	235 (1.7)	257 (1.4)	274 (1.4)	284 (1.8)
Kentucky	218 (1.1)	166 (2.0)	178 (2.5)	197 (1.6)	218 (1.2)	240 (1.3)	259 (1.6)	270 (1.7)
Louisiana	208 (1.6)	150 (2.7)	164 (2.0)	185 (2.1)	209 (1.6)	233 (2.3)	253 (1.9)	264 (1.6)
Maine	236 (1.4)	183 (1.9)	195 (2.2)	216 (1.8)	238 (1.9)	258 (2.0)	275 (1.6)	285 (1.3)
Maryland	220 (1.7)	159 (3.3)	172 (3.4)	195 (1.7)	221 (1.6)	245 (1.5)	266 (1.4)	276 (2.0)
Massachusetts	229 (1.6)	168 (3.8)	183 (3.1)	208 (2.3)	231 (1.9)	253 (1.7)	272 (2.2)	283 (1.4)
Michigan	225 (2.0)	163 (7.4)	179 (3.7)	204 (2.4)	228 (1.8)	250 (1.5)	268 (2.2)	278 (2.3)
Minnesota	233 (1.3)	177 (2.9)	191 (2.2)	213 (1.6)	235 (1.4)	256 (1.0)	274 (1.2)	284 (2.0)
Mississippi	206 (1.5)	153 (2.8)	164 (1.8)	184 (1.6)	206 (1.4)	228 (1.7)	247 (2.1)	258 (1.8)
Missouri	226 (1.7)	168 (3.0)	183 (4.2)	205 (1.7)	228 (1.7)	250 (2.1)	268 (2.6)	279 (2.8)
Nebraska	230 (1.5)	173 (2.6)	186 (1.9)	209 (2.7)	232 (1.9)	253 (1.6)	270 (1.1)	280 (2.7)
New Hampshire	234 (1.5)	184 (2.3)	195 (2.1)	214 (1.9)	235 (1.7)	255 (1.5)	272 (2.2)	282 (3.0)
New Jersey	230 (1.9)	168 (5.5)	183 (4.2)	208 (2.6)	232 (1.6)	255 (1.4)	274 (2.8)	285 (2.3)
New Mexico	216 (1.6)	165 (2.3)	177 (1.4)	196 (1.5)	217 (2.0)	237 (1.5)	256 (1.5)	267 (1.9)
New York	221 (1.7)	158 (3.2)	173 (1.7)	198 (2.1)	222 (1.7)	245 (2.2)	264 (2.1)	276 (2.6)
North Carolina	216 (1.3)	159 (1.8)	171 (1.7)	192 (1.6)	217 (1.3)	239 (1.2)	259 (0.8)	270 (2.8)
North Dakota	235 (1.3)	187 (4.0)	198 (1.4)	217 (1.3)	236 (1.8)	254 (1.4)	270 (1.5)	279 (2.0)
Ohio	223 (1.6)	168 (3.4)	180 (2.1)	200 (1.3)	223 (2.1)	245 (1.7)	265 (2.4)	276 (2.5)
Oklahoma	224 (1.3)	173 (2.7)	185 (1.7)	205 (1.8)	224 (0.8)	244 (1.6)	261 (1.7)	272 (2.1)
Pennsylvania	229 (1.6)	169 (4.9)	183 (1.8)	207 (2.7)	230 (1.5)	253 (1.2)	271 (1.8)	281 (2.8)
Rhode Island	218 (1.8)	159 (1.7)	173 (3.0)	196 (2.9)	220 (1.6)	242 (2.1)	261 (4.1)	273 (3.3)
South Carolina	218 (1.6)	168 (1.9)	178 (2.6)	196 (2.3)	217 (1.5)	239 (1.5)	258 (1.4)	269 (1.4)
Tennessee	213 (1.4)	159 (1.6)	172 (2.4)	192 (1.8)	214 (1.6)	235 (1.5)	253 (1.5)	263 (1.6)
Texas	220 (1.6)	163 (3.0)	177 (2.4)	198 (2.1)	221 (1.5)	243 (2.6)	264 (2.7)	275 (1.9)
Utah	229 (1.1)	176 (1.6)	189 (1.2)	209 (1.8)	230 (1.3)	250 (1.3)	268 (1.6)	278 (2.1)
Virginia	224 (1.5)	170 (1.4)	182 (1.9)	202 (2.0)	225 (1.3)	247 (1.9)	266 (2.1)	277 (2.0)
West Virginia	223 (1.3)	173 (1.6)	184 (1.2)	202 (1.6)	223 (1.3)	243 (1.1)	261 (2.5)	271 (1.6)
Wisconsin	234 (1.2)	179 (2.1)	192 (1.8)	214 (1.4)	235 (1.5)	255 (1.7)	273 (1.4)	282 (1.9)
Wyoming	230 (1.2)	182 (1.6)	192 (1.7)	211 (1.6)	231 (1.9)	249 (1.7)	266 (1.3)	275 (1.3)
TERRITORY								
Guam	192 (1.1)	131 (4.3)	144 (2.8)	168 (1.7)	192 (1.4)	216 (1.3)	238 (2.2)	250 (2.5)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 3.8 | Percentiles of Proficiency in Measurement (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	264 (1.3)	190 (2.1)	206 (1.3)	233 (1.4)	265 (1.5)	296 (1.6)	323 (2.8)	338 (1.9)
Northeast	265 (3.9)	188 (4.7)	204 (5.3)	231 (4.2)	263 (4.4)	298 (3.9)	328 (3.1)	343 (2.8)
Southeast	253 (1.6)	183 (4.5)	197 (3.7)	222 (2.1)	254 (2.5)	284 (1.5)	310 (4.1)	326 (3.7)
Central	272 (2.7)	200 (3.3)	215 (4.0)	243 (4.4)	274 (2.6)	301 (3.0)	325 (3.4)	339 (2.7)
West	266 (2.8)	191 (4.9)	209 (4.5)	235 (2.1)	267 (1.9)	297 (4.0)	325 (2.9)	340 (4.0)
STATES								
Alabama	245 (2.3)	171 (6.0)	187 (2.5) <	214 (1.8)	244 (2.8)	276 (2.7)	305 (2.5)	320 (2.6)
Arizona	264 (2.3)	192 (3.4)	209 (4.0)	236 (2.5)	265 (2.9)	293 (2.6)	318 (3.3)	333 (5.5)
Arkansas	251 (1.3)	183 (2.3)	198 (2.0)	225 (2.1)	253 (1.4)	279 (2.5)	303 (1.4)	317 (2.5)
California	258 (2.1) >	179 (4.6)	197 (4.4)	228 (3.0)	260 (2.2)	291 (1.9) >	317 (4.0)	331 (3.6)
Colorado	273 (1.6) »	204 (2.8)	219 (2.5)	246 (2.2)	273 (1.5) >	301 (1.9) >	324 (1.5)	337 (1.8)
Connecticut	275 (1.6) >	198 (4.3)	215 (4.0)	244 (1.8)	277 (2.1)	306 (1.9)	331 (2.5)	346 (3.4)
Delaware	258 (1.5)	188 (5.4)	203 (2.9)	230 (2.4)	259 (2.0)	288 (2.3)	311 (2.2)	327 (2.1)
Dist. Columbia	221 (1.6)	150 (3.6) <	165 (3.2)	191 (1.5) <	221 (1.9)	249 (2.1)	279 (3.7)	297 (5.0)
Florida	254 (2.1)	178 (5.4)	197 (4.2)	225 (2.8)	256 (1.9)	285 (2.8)	311 (1.9)	325 (2.6)
Georgia	253 (2.1)	182 (4.0)	197 (2.7)	223 (2.4)	254 (2.3)	283 (2.3)	308 (3.1)	324 (2.6)
Hawaii	254 (1.0) >	182 (1.9)	198 (2.0)	225 (1.2)	254 (2.3)	284 (1.7)	310 (2.5)	326 (2.4)
Idaho	276 (1.4) >	207 (3.2)	224 (2.6)	249 (1.4)	276 (1.7)	303 (1.6) >	326 (1.6) »	340 (1.7) >
Indiana	269 (1.7)	198 (3.4)	213 (2.0)	240 (1.9)	269 (1.4)	297 (1.9)	325 (2.3)	341 (3.3)
Iowa	287 (1.6) »	222 (2.6) >	237 (2.7) >	261 (2.4) >	288 (1.6) »	314 (1.6) »	337 (2.6)	351 (2.5)
Kentucky	259 (1.3) >	191 (2.2)	206 (1.3)	231 (2.4)	259 (1.6)	286 (1.3) >	312 (2.2)	327 (2.4)
Louisiana	242 (2.0)	172 (1.6)	187 (3.0)	214 (2.4)	242 (2.1)	270 (2.1)	295 (3.7)	310 (2.6)
Maine	282 (1.5)	217 (3.3)	232 (1.5)	256 (1.2)	281 (1.4)	308 (2.8)	332 (2.1)	345 (3.1)
Maryland	261 (1.7)	179 (2.5)	197 (3.3)	227 (2.1)	261 (1.8)	295 (3.2)	324 (4.0)	340 (3.2)
Massachusetts	270 (1.5)	196 (3.5)	214 (2.1)	242 (1.9)	271 (1.4)	301 (2.2)	326 (2.6)	340 (4.3)
Michigan	266 (2.0)	188 (3.4)	206 (3.0)	236 (1.8)	267 (1.8)	298 (2.6) >	323 (2.6)	338 (4.1)
Minnesota	285 (1.5) »	217 (1.9)	232 (2.6)	258 (2.4) >	286 (2.0) »	313 (1.9) »	336 (1.7) »	349 (2.3) »
Mississippi	236 (2.1)	166 (2.6)	181 (1.9)	207 (2.6)	236 (2.0)	266 (3.4)	293 (3.0)	308 (3.6)
Missouri	271 (1.8)	204 (3.0)	220 (2.2)	245 (2.5)	273 (1.6)	298 (1.9)	321 (2.5)	335 (2.8)
Nebraska	278 (1.7)	206 (2.9)	224 (2.4)	251 (2.1)	280 (1.7)	307 (2.2)	330 (2.4)	344 (3.0)
New Hampshire	280 (1.9) >	216 (2.6)	231 (1.6)	255 (1.5)	281 (2.1) >	306 (2.9)	329 (2.9)	342 (2.7)
New Jersey	268 (2.2)	191 (3.3)	208 (3.3)	238 (2.1)	270 (2.8)	300 (3.2)	326 (1.7)	340 (1.5)
New Mexico	257 (1.5)	190 (4.5)	206 (2.2)	231 (2.0)	257 (1.6)	285 (1.8)	309 (3.8)	324 (2.6)
New York	262 (2.5)	175 (6.4)	198 (5.1)	231 (3.1)	265 (2.2) >	296 (1.6) >	323 (2.0)	339 (4.6)
North Carolina	253 (1.8) »	184 (2.1) >	199 (2.9)	225 (1.8) »	254 (1.9) »	282 (2.5) >	307 (2.4) >	322 (3.6)
North Dakota	285 (1.9)	219 (4.6)	235 (3.1)	260 (2.6)	287 (2.5)	312 (2.2)	334 (2.1)	347 (2.3)
Ohio	266 (2.3)	190 (3.3)	207 (3.5)	237 (3.9)	268 (2.4)	296 (2.6)	321 (1.6)	334 (2.0)
Oklahoma	266 (2.3) >	196 (5.1)	212 (3.0)	239 (2.6)	266 (2.5)	295 (3.1)	317 (2.3)	332 (2.9)
Pennsylvania	271 (2.0)	201 (4.0)	217 (4.2)	244 (2.3)	272 (2.4)	300 (2.3)	325 (3.4)	340 (2.6)
Rhode Island	263 (1.1) »	194 (1.8)	210 (1.6)	237 (1.4) »	266 (1.5) »	291 (1.3)	313 (2.3)	327 (3.5)
South Carolina	257 (1.6)	189 (2.1)	203 (1.8)	227 (1.9)	255 (1.8)	285 (1.7)	313 (2.6)	330 (3.6)
Tennessee	253 (2.0)	184 (3.0)	200 (1.9)	225 (3.1)	254 (1.9)	282 (2.6)	306 (2.2)	321 (4.1)
Texas	260 (1.7) >	186 (2.5)	202 (1.6)	228 (2.1)	259 (2.0)	291 (2.5) >	319 (2.3) »	336 (3.6) >
Utah	275 (1.3)	204 (2.7)	221 (2.2)	249 (1.9)	276 (1.4)	302 (1.6)	325 (1.6)	339 (1.9)
Virginia	265 (1.7)	193 (2.6)	209 (2.8)	236 (2.0)	264 (2.0)	295 (2.4)	322 (1.7)	337 (3.2)
West Virginia	256 (1.6)	194 (2.1)	207 (1.5)	230 (2.7)	256 (2.6)	282 (2.0)	304 (3.1)	318 (3.0)
Wisconsin	279 (2.0)	211 (4.3)	227 (3.1)	253 (2.9)	281 (2.1)	308 (2.3)	329 (1.8)	342 (1.8)
Wyoming	278 (1.2) »	218 (2.3) >	231 (2.4)	253 (1.8) >	279 (1.2) »	302 (1.8)	324 (1.7)	336 (2.6)
TERRITORIES								
Guam	228 (1.6)	152 (2.8) <	169 (2.5)	197 (3.2)	228 (2.3)	260 (2.9)	289 (2.8)	305 (2.7) >
Virgin Islands	211 (1.7)	149 (4.4)	163 (4.0)	186 (2.9)	211 (2.2)	235 (2.2)	258 (2.4)	272 (2.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 3.8 | Percentiles of Proficiency in Measurement (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	258 (1.6)	185 (3.2)	202 (1.9)	230 (2.7)	259 (2.2)	288 (2.2)	312 (2.3)	326 (2.1)
Northeast	267 (4.2)	197 (4.0)	215 (5.9)	240 (2.8)	267 (5.8)	294 (3.9)	317 (5.2)	331 (4.3)
Southeast	248 (2.9)	174 (6.5)	191 (5.5)	218 (3.7)	248 (2.5)	279 (4.4)	304 (4.6)	319 (7.0)
Central	262 (3.0)	193 (6.0)	210 (3.4)	236 (3.3)	263 (3.5)	290 (2.8)	312 (6.9)	326 (6.0)
West	257 (3.2)	183 (8.3)	200 (4.2)	228 (2.3)	258 (4.7)	287 (3.5)	313 (3.8)	328 (5.6)
STATES								
Alabama	248 (1.4)	184 (3.4)	198 (1.4)	221 (1.5)	249 (1.9)	274 (1.8)	297 (3.4)	311 (2.4)
Arizona	257 (1.6)	191 (5.5)	205 (3.4)	230 (2.1)	257 (2.0)	285 (1.8)	308 (2.1)	322 (4.9)
Arkansas	254 (1.3)	189 (2.6)	204 (2.4)	227 (1.3)	254 (1.9)	281 (2.5)	304 (2.2)	317 (1.8)
California	252 (1.4)	180 (2.5)	196 (2.1)	223 (2.5)	252 (1.9)	281 (2.3)	308 (1.9)	323 (3.3)
Colorado	265 (1.2)	197 (2.0)	213 (2.1)	239 (1.4)	265 (1.4)	292 (1.8)	316 (3.0)	330 (3.0)
Connecticut	268 (1.6)	196 (2.8)	213 (2.0)	240 (1.9)	269 (1.7)	298 (2.3)	322 (1.6)	337 (2.7)
Delaware	259 (1.2)	192 (2.0)	206 (2.8)	231 (1.5)	258 (2.0)	287 (1.5)	311 (1.7)	326 (3.8)
Dist. Columbia	222 (1.4)	164 (2.5)	176 (1.9)	199 (1.7)	221 (1.7)	244 (1.2)	269 (2.9)	286 (5.2)
Florida	252 (1.5)	181 (2.8)	198 (2.4)	224 (1.6)	252 (1.6)	280 (1.7)	306 (2.9)	323 (4.0)
Georgia	253 (1.5)	182 (2.0)	198 (1.6)	223 (1.6)	253 (1.5)	282 (1.8)	307 (2.0)	322 (3.4)
Hawaii	249 (0.9)	180 (1.4)	195 (1.8)	221 (1.9)	249 (1.4)	278 (1.8)	303 (2.9)	317 (2.9)
Idaho	269 (1.1)	208 (3.0)	221 (2.2)	245 (1.2)	270 (1.7)	295 (1.5)	316 (1.2)	328 (2.5)
Indiana	265 (2.0)	200 (3.3)	214 (2.2)	237 (1.8)	264 (2.1)	291 (2.6)	316 (2.7)	332 (3.6)
Iowa	276 (1.6)	210 (2.6)	224 (1.9)	249 (2.0)	276 (1.5)	304 (1.5)	327 (2.1)	341 (3.9)
Kentucky	254 (1.2)	191 (2.5)	204 (2.3)	228 (1.7)	253 (1.7)	279 (1.3)	303 (2.3)	318 (3.1)
Louisiana	241 (1.4)	176 (2.0)	191 (2.6)	215 (2.1)	241 (1.7)	268 (2.4)	291 (1.9)	305 (2.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	256 (1.7)	181 (2.9)	198 (2.0)	225 (1.9)	257 (2.4)	288 (2.1)	315 (2.1)	329 (3.7)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	261 (1.5)	193 (4.2)	209 (2.1)	234 (1.3)	261 (1.8)	288 (1.5)	313 (2.9)	327 (3.7)
Minnesota	272 (1.2)	205 (5.0)	222 (2.6)	246 (1.6)	273 (1.2)	299 (1.6)	321 (1.9)	335 (1.6)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	273 (1.6)	202 (2.7)	220 (2.4)	246 (2.2)	275 (1.6)	302 (1.5)	325 (2.3)	339 (3.2)
New Hampshire	272 (1.6)	212 (2.7)	226 (2.5)	248 (2.5)	272 (1.6)	296 (1.8)	318 (1.8)	333 (2.2)
New Jersey	267 (1.4)	197 (3.5)	212 (2.8)	239 (1.2)	268 (1.7)	297 (2.0)	323 (2.1)	337 (2.5)
New Mexico	254 (1.0)	192 (2.9)	205 (2.0)	228 (0.9)	253 (1.4)	279 (1.9)	304 (2.1)	317 (2.7)
New York	255 (2.1)	176 (7.1)	196 (4.2)	225 (2.4)	256 (1.9)	286 (2.5)	313 (2.4)	329 (3.2)
North Carolina	242 (1.3)	175 (1.4)	190 (1.8)	215 (1.5)	242 (1.7)	270 (2.0)	295 (2.8)	310 (2.2)
North Dakota	279 (1.6)	214 (6.3)	230 (2.0)	255 (2.6)	280 (2.1)	305 (1.6)	326 (2.3)	340 (3.4)
Ohio	259 (1.3)	189 (5.9)	205 (1.2)	232 (1.2)	260 (1.5)	287 (2.3)	313 (3.2)	328 (2.4)
Oklahoma	258 (1.6)	194 (2.8)	208 (2.0)	232 (1.8)	258 (3.0)	284 (1.6)	309 (2.7)	323 (3.2)
Pennsylvania	264 (2.0)	190 (4.4)	207 (6.7)	236 (2.4)	265 (1.9)	294 (2.3)	320 (2.5)	335 (3.2)
Rhode Island	257 (0.7)	189 (2.4)	205 (1.6)	229 (1.0)	257 (1.0)	285 (1.5)	309 (1.3)	323 (2.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	254 (1.5)	187 (4.1)	202 (2.0)	227 (2.1)	253 (1.7)	281 (1.7)	305 (2.2)	320 (2.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	260 (1.8)	194 (1.0)	207 (1.5)	231 (1.8)	259 (1.8)	287 (2.2)	314 (3.3)	331 (3.2)
West Virginia	253 (1.2)	191 (1.9)	205 (2.6)	228 (1.6)	252 (1.6)	277 (1.4)	301 (1.8)	316 (2.6)
Wisconsin	273 (1.6)	205 (2.9)	221 (2.8)	247 (1.8)	274 (1.9)	300 (1.5)	324 (2.1)	338 (2.3)
Wyoming	270 (0.8)	206 (2.2)	222 (1.7)	244 (1.7)	270 (1.1)	296 (1.1)	318 (1.1)	331 (1.6)
TERRITORIES								
Guam	229 (1.3)	165 (1.9)	178 (2.5)	202 (2.0)	228 (1.8)	255 (1.8)	280 (1.1)	294 (2.3)
Virgin Islands	216 (2.0)	160 (3.1)	173 (2.2)	193 (2.3)	216 (2.2)	238 (2.5)	259 (2.4)	271 (3.9)

(xxx) Did not participate in the 1990 Trial State Assessment.

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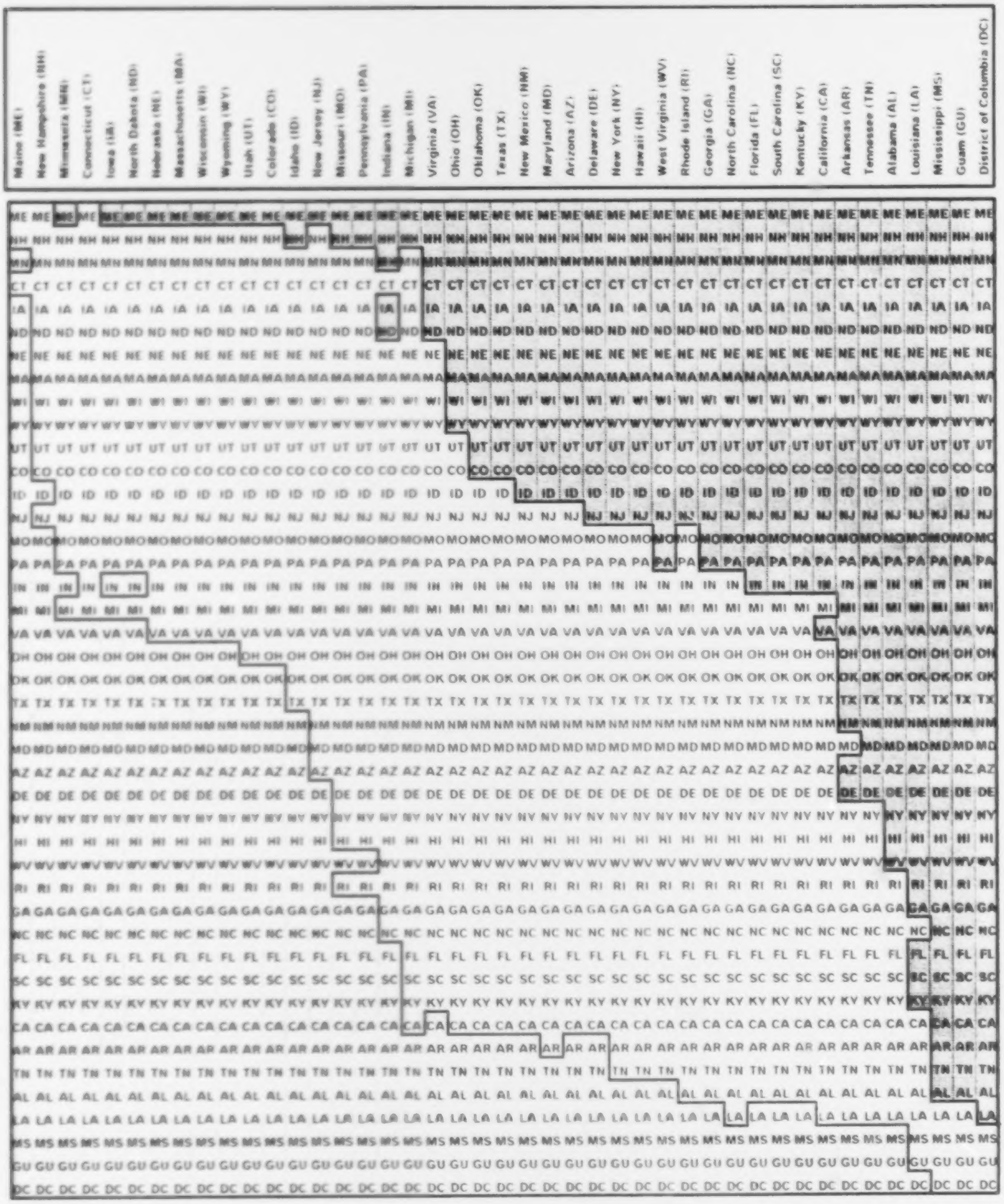
FIGURE 3.8 | Comparisons of Geometry Average Proficiency 1992 Grade 4

THE NATION'S REPORT CARD naep

INSTRUCTIONS: Read ***down*** the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.



Maine (ME)	New Hampshire (NH)	Minnesota (MN)	Connecticut (CT)	Iowa (IA)	North Dakota (ND)	Nebraska (NE)	Massachusetts (MA)	Wisconsin (WI)	Wyoming (WY)	Utah (UT)	Colorado (CO)	Idaho (ID)	New Jersey (NJ)	Missouri (MO)	Pennsylvania (PA)	Indiana (IN)	Michigan (MI)	Virginia (VA)	Ohio (OH)	Oklahoma (OK)	Texas (TX)	New Mexico (NM)	Maryland (MD)	Arizona (AZ)	Delaware (DE)	New York (NY)	Hawaii (HI)	West Virginia (WV)	Rhode Island (RI)	Georgia (GA)	North Carolina (NC)	Florida (FL)	South Carolina (SC)	Kentucky (KY)	California (CA)	Arkansas (AR)	Tennessee (TN)	Alabama (AL)	Louisiana (LA)	Mississippi (MS)	Guam (GU)	District of Columbia (DC)
ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME
NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN
CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT
IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA
WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI
WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY
UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT
CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO
ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO
PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA
IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN
MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI
VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA
OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH
OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX
NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD
AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ
DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY
HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI
WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV
RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI
GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA
NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL
SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC
KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY
CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA
AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN
AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL
LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA
MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS
GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU
DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC

☐ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

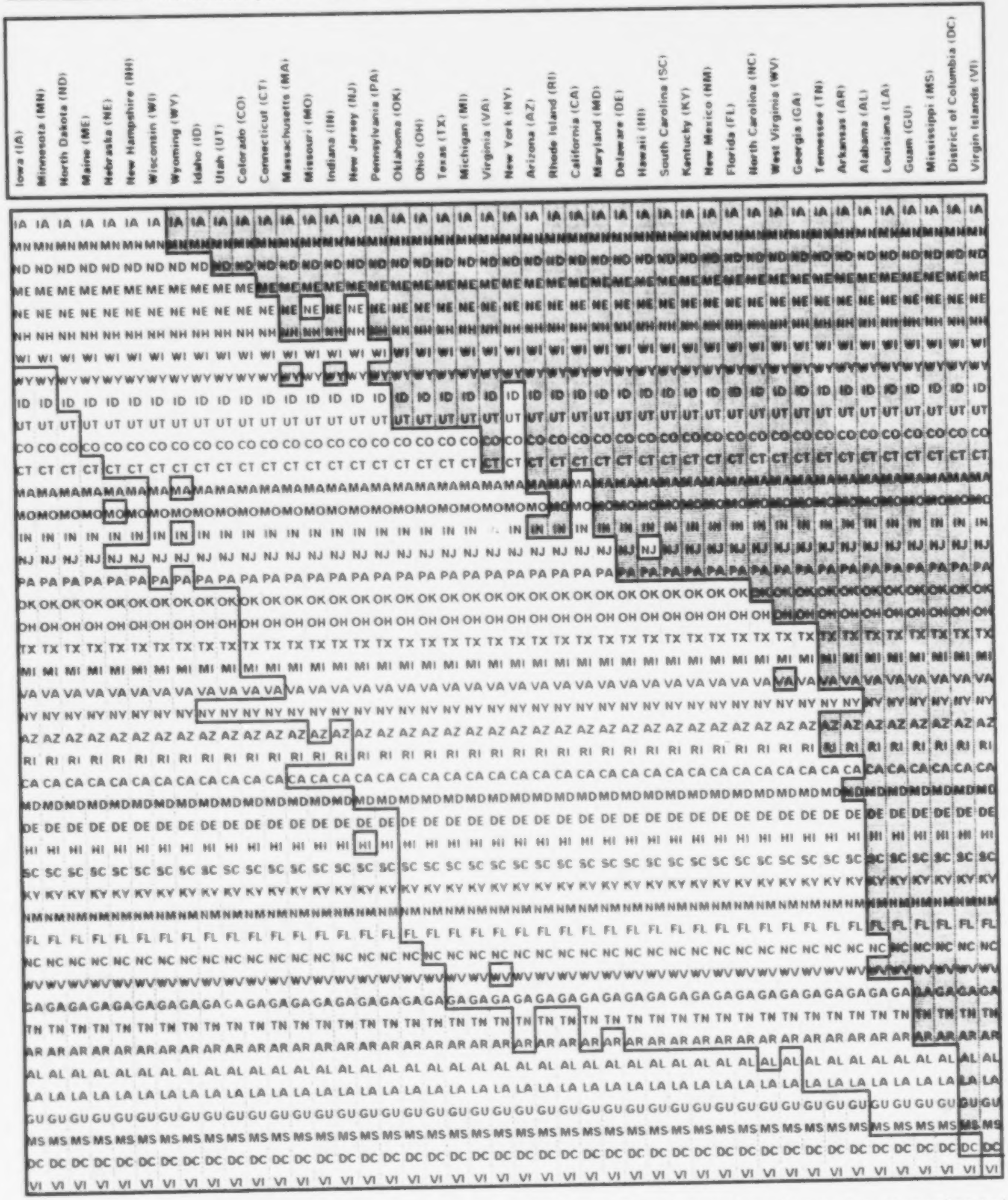
☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

FIGURE 3.9 | Comparisons of Geometry Average Proficiency 1992 Grade 8

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.


Iowa (IA)
Minnesota (MN)
North Dakota (ND)
Maine (ME)
Nebraska (NE)
New Hampshire (NH)
Wisconsin (WI)
Wyoming (WY)
Idaho (ID)
Utah (UT)
Colorado (CO)
Connecticut (CT)
Massachusetts (MA)
Missouri (MO)
Indiana (IN)
New Jersey (NJ)
Pennsylvania (PA)
Oklahoma (OK)
Ohio (OH)
Texas (TX)
Michigan (MI)
Virginia (VA)
New York (NY)
Arizona (AZ)
Rhode Island (RI)
California (CA)
Maryland (MD)
Delaware (DE)
Hawaii (HI)
South Carolina (SC)
Kentucky (KY)
New Mexico (NM)
Florida (FL)
North Carolina (NC)
West Virginia (WV)
Georgia (GA)
Tennessee (TN)
Arkansas (AR)
Alabama (AL)
Louisiana (LA)
Guam (GU)
Mississippi (MS)
District of Columbia (DC)
Virgin Islands (VI)

▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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TABLE 3.9 | Percentiles of Proficiency in Geometry

PUBLIC SCHOOLS	Grade 4 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	220 (0.7)	167 (1.7)	179 (1.1)	199 (0.9)	221 (1.2)	242 (1.0)	260 (1.2)	270 (0.8)
Northeast	224 (2.2)	171 (3.7)	183 (2.2)	202 (2.8)	225 (2.8)	247 (2.8)	265 (1.0)	273 (1.9)
Southeast	212 (1.6)	159 (3.2)	171 (2.2)	190 (2.0)	213 (1.0)	234 (2.0)	252 (2.3)	263 (2.9)
Central	224 (2.0)	173 (5.0)	185 (4.4)	205 (3.3)	225 (2.7)	244 (1.3)	261 (1.6)	270 (2.1)
West	222 (1.3)	168 (3.4)	181 (1.1)	201 (1.7)	223 (1.8)	244 (2.2)	260 (1.7)	270 (2.9)
STATES								
Alabama	209 (1.4)	160 (1.2)	171 (1.7)	189 (1.3)	209 (2.1)	230 (1.7)	247 (1.8)	257 (2.3)
Arizona	219 (1.0)	168 (1.8)	180 (1.7)	199 (1.3)	220 (1.0)	239 (0.9)	256 (1.1)	267 (1.8)
Arkansas	212 (1.3)	161 (3.4)	172 (2.0)	192 (1.5)	213 (1.6)	232 (2.0)	249 (1.6)	258 (2.0)
California	213 (1.6)	149 (3.1)	164 (3.3)	189 (2.3)	215 (1.7)	238 (2.0)	258 (2.0)	269 (2.3)
Colorado	227 (1.0)	179 (2.4)	190 (2.1)	208 (1.8)	227 (1.1)	246 (1.1)	262 (1.3)	272 (1.7)
Connecticut	230 (1.3)	179 (3.3)	191 (2.6)	210 (1.9)	231 (1.8)	250 (1.7)	266 (1.3)	276 (1.8)
Delaware	219 (0.9)	170 (2.2)	181 (1.3)	199 (1.1)	219 (1.2)	239 (1.1)	256 (1.8)	267 (2.2)
Dist. Columbia	198 (0.9)	144 (2.2)	156 (1.6)	175 (0.9)	196 (1.3)	220 (1.2)	242 (2.0)	256 (3.0)
Florida	215 (1.2)	162 (2.7)	175 (2.0)	195 (1.7)	216 (1.3)	237 (1.4)	255 (2.0)	265 (2.4)
Georgia	216 (1.2)	167 (2.2)	178 (1.6)	196 (1.5)	217 (1.3)	237 (1.9)	254 (1.6)	265 (1.1)
Hawaii	218 (1.2)	156 (3.4)	171 (2.0)	195 (2.3)	220 (1.4)	242 (1.1)	261 (1.6)	272 (2.4)
Idaho	226 (1.1)	179 (1.9)	190 (2.1)	208 (1.7)	227 (1.3)	245 (1.5)	260 (1.9)	269 (1.0)
Indiana	223 (1.2)	180 (1.8)	189 (1.5)	205 (1.3)	223 (1.3)	240 (1.2)	256 (1.9)	265 (2.1)
Iowa	229 (1.0)	180 (2.1)	193 (1.5)	211 (1.1)	230 (0.9)	249 (1.8)	265 (1.5)	275 (1.6)
Kentucky	215 (1.1)	171 (1.7)	181 (1.6)	197 (1.1)	214 (1.1)	233 (1.5)	249 (2.1)	258 (1.7)
Louisiana	206 (1.7)	155 (3.9)	167 (2.6)	186 (2.0)	207 (1.5)	227 (1.5)	245 (1.8)	256 (2.9)
Maine	236 (0.9)	192 (2.5)	202 (1.5)	219 (1.1)	237 (1.0)	254 (1.0)	269 (1.9)	277 (1.8)
Maryland	219 (1.2)	159 (2.3)	173 (2.0)	196 (2.0)	220 (1.2)	243 (1.6)	263 (2.3)	274 (2.2)
Massachusetts	229 (1.2)	180 (1.8)	191 (1.6)	210 (1.2)	229 (1.7)	248 (1.1)	265 (1.6)	274 (1.5)
Michigan	222 (1.7)	166 (4.0)	180 (3.2)	202 (2.1)	224 (1.8)	244 (1.6)	261 (1.5)	271 (1.6)
Minnesota	230 (0.9)	176 (2.1)	190 (1.7)	210 (1.5)	231 (1.0)	251 (1.6)	268 (1.1)	279 (1.4)
Mississippi	202 (1.0)	150 (3.0)	162 (1.6)	181 (1.2)	202 (1.3)	223 (1.5)	242 (1.4)	252 (2.1)
Missouri	224 (1.1)	176 (2.4)	187 (1.7)	206 (1.0)	225 (1.0)	243 (1.0)	259 (1.9)	269 (2.8)
Nebraska	229 (1.2)	180 (2.5)	191 (1.4)	209 (1.4)	229 (1.6)	249 (1.4)	266 (2.1)	276 (2.2)
New Hampshire	233 (1.2)	189 (2.7)	199 (1.3)	215 (1.4)	233 (1.3)	251 (1.6)	267 (1.1)	276 (2.5)
New Jersey	226 (1.4)	175 (2.4)	188 (2.5)	207 (1.7)	227 (2.0)	246 (1.1)	263 (1.7)	272 (1.2)
New Mexico	219 (1.2)	173 (1.6)	183 (1.6)	201 (1.6)	220 (1.1)	238 (1.3)	255 (2.0)	264 (1.2)
New York	218 (1.2)	165 (3.1)	178 (1.8)	198 (1.3)	219 (1.0)	238 (1.4)	257 (1.5)	268 (2.7)
North Carolina	215 (1.6)	163 (1.7)	175 (2.4)	194 (1.9)	216 (1.5)	237 (1.5)	255 (1.8)	265 (2.5)
North Dakota	229 (1.0)	187 (2.3)	197 (1.7)	213 (1.7)	230 (0.9)	247 (1.4)	261 (1.0)	269 (1.7)
Ohio	221 (1.3)	173 (2.0)	183 (1.6)	202 (1.4)	221 (1.0)	241 (1.1)	258 (2.3)	269 (2.2)
Oklahoma	220 (1.1)	175 (1.6)	185 (1.8)	202 (1.0)	220 (1.3)	238 (1.1)	255 (2.0)	264 (3.1)
Pennsylvania	223 (1.2)	172 (2.2)	185 (2.3)	204 (1.9)	224 (1.3)	244 (1.2)	262 (2.0)	272 (1.2)
Rhode Island	216 (1.6)	164 (3.1)	176 (2.4)	196 (2.1)	217 (1.5)	237 (1.6)	255 (2.3)	265 (2.3)
South Carolina	215 (1.1)	164 (0.9)	175 (2.3)	194 (1.3)	214 (0.9)	236 (1.5)	256 (2.5)	267 (1.9)
Tennessee	211 (1.6)	159 (2.7)	171 (2.3)	191 (2.2)	211 (1.9)	232 (1.4)	249 (1.7)	260 (1.6)
Texas	220 (1.4)	169 (1.2)	181 (2.0)	200 (1.6)	220 (1.4)	240 (1.5)	259 (2.0)	269 (3.0)
Utah	227 (0.9)	181 (2.1)	192 (1.4)	209 (1.8)	227 (1.1)	245 (1.0)	260 (0.8)	270 (1.5)
Virginia	222 (1.3)	170 (1.9)	182 (1.5)	201 (1.5)	222 (1.2)	243 (1.8)	262 (1.7)	273 (2.3)
West Virginia	217 (1.0)	170 (1.8)	180 (1.2)	198 (1.1)	217 (1.0)	236 (1.1)	252 (1.2)	262 (1.1)
Wisconsin	228 (1.2)	180 (2.1)	192 (1.5)	210 (1.7)	229 (1.7)	247 (1.1)	263 (1.1)	273 (2.3)
Wyoming	228 (1.1)	184 (1.8)	195 (1.8)	211 (1.5)	228 (0.9)	245 (1.1)	260 (2.4)	268 (1.7)
TERRITORY								
Guam	201 (1.2)	144 (4.2)	157 (2.6)	179 (2.2)	202 (1.6)	225 (1.7)	244 (1.7)	256 (2.5)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 3.9 | Percentiles of Proficiency in Geometry (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	262 (1.0)	204 (1.7)	216 (1.0)	238 (1.4)	262 (1.1)	286 (1.0)	307 (1.4)	318 (1.8)
Northeast	263 (3.1)	203 (3.6)	215 (4.2)	237 (2.8)	262 (2.5)	289 (2.6)	312 (3.9)	324 (6.2)
Southeast	253 (1.3)	198 (3.3)	210 (2.3)	230 (1.3)	254 (1.3)	277 (1.8)	297 (2.2)	309 (2.9)
Central	269 (2.1)	213 (5.4)	225 (2.5)	247 (2.2)	270 (1.9)	292 (1.5)	309 (2.2)	320 (2.9)
West	263 (2.2)	204 (2.9)	217 (3.7)	239 (3.0)	264 (2.3)	287 (2.4)	307 (1.8)	319 (3.1)
STATES								
Alabama	245 (1.9)	187 (5.0)	201 (3.4)	222 (2.0)	245 (1.9)	269 (2.0)	291 (2.0)	303 (1.9)
Arizona	260 (1.0)	210 (2.2)	221 (1.4)	240 (1.2)	260 (1.2)	280 (1.2)	299 (1.5)	311 (1.4)
Arkansas	250 (1.5)	193 (1.4)	206 (1.6)	228 (2.4)	251 (1.5)	274 (1.5)	293 (2.2)	304 (3.8)
California	259 (1.9)	198 (3.6)	213 (3.5)	236 (2.1)	260 (2.2)	284 (1.8)	304 (2.0)	315 (4.0)
Colorado	269 (1.1)	216 (1.9)	228 (2.0)	248 (1.6)	270 (1.0)	290 (1.2)	307 (1.8)	317 (1.5)
Connecticut	268 (1.0)	208 (2.4)	222 (2.0)	245 (1.9)	270 (1.0)	293 (0.9)	311 (1.5)	322 (1.6)
Delaware	257 (1.1)	200 (2.0)	213 (2.4)	234 (1.5)	257 (1.4)	280 (1.4)	300 (1.9)	313 (3.3)
Dist. Columbia	231 (1.3)	175 (3.1)	187 (2.3)	207 (1.0)	230 (1.8)	254 (1.4)	277 (3.5)	291 (2.5)
Florida	255 (1.3)	197 (2.2)	210 (1.3)	232 (1.3)	256 (1.6)	279 (1.2)	298 (2.4)	309 (4.1)
Georgia	253 (1.4)	198 (2.6)	210 (2.0)	231 (1.9)	254 (1.6)	276 (1.4)	296 (2.6)	307 (2.2)
Hawaii	257 (1.2) >	197 (2.7)	210 (2.5)	233 (1.5) >	258 (1.8)	282 (1.8)	302 (1.6)	314 (2.0)
Idaho	271 (0.9)	223 (1.6)	234 (2.0)	252 (0.7)	272 (1.1)	290 (1.5)	307 (1.5)	317 (1.3)
Indiana	266 (1.2)	211 (1.7)	224 (1.8)	244 (1.6)	266 (1.3)	289 (1.2)	309 (1.9)	321 (1.0)
Iowa	278 (1.2)	226 (2.6)	237 (1.3)	257 (1.6)	278 (0.9)	299 (1.3)	317 (2.6)	327 (1.9)
Kentucky	256 (1.1)	202 (1.1)	213 (1.3)	234 (1.4)	257 (1.2)	278 (1.2)	298 (1.8)	311 (3.1)
Louisiana	244 (1.7)	189 (1.9)	201 (1.2)	222 (1.9)	245 (1.6)	267 (2.0)	288 (2.1)	300 (2.9)
Maine	274 (0.9)	225 (2.5)	236 (1.4)	255 (2.1)	274 (1.2)	294 (0.8)	311 (2.1)	322 (1.5)
Maryland	259 (1.3)	195 (3.5)	209 (3.0)	233 (1.5)	259 (1.8)	286 (1.9)	308 (2.3)	321 (2.8)
Massachusetts	267 (1.1)	211 (2.3)	224 (2.2)	244 (1.3)	267 (1.5)	290 (1.5)	309 (1.5)	320 (2.3)
Michigan	261 (1.5)	200 (1.5)	215 (2.2)	239 (1.6)	263 (1.7)	286 (1.9)	306 (2.2)	318 (2.0)
Minnesota	278 (1.1) >	222 (3.3)	235 (2.2)	256 (2.0)	278 (1.1)	300 (1.6) >	319 (1.5)	331 (2.3)
Mississippi	239 (1.2)	183 (4.2)	195 (2.1)	216 (1.4)	239 (1.5)	263 (1.4)	283 (1.9)	294 (4.3)
Missouri	266 (1.3)	211 (4.0)	224 (2.8)	245 (2.1)	267 (1.4)	289 (1.9)	308 (2.2)	319 (3.1)
Nebraska	274 (1.3)	220 (2.7)	233 (1.5)	253 (1.9)	275 (1.4)	296 (1.5)	313 (1.6)	324 (1.8)
New Hampshire	273 (1.0)	225 (2.2)	236 (1.4)	254 (1.1)	274 (1.2)	292 (1.5)	310 (2.1)	320 (1.7)
New Jersey	265 (1.7)	204 (2.0)	218 (2.8)	241 (2.3)	267 (2.0)	290 (1.2)	310 (1.8)	322 (3.0)
New Mexico	256 (0.9)	206 (2.3)	217 (2.4)	236 (0.9)	256 (1.0)	276 (0.9)	295 (2.2)	306 (1.9)
New York	261 (2.4)	194 (6.5)	211 (3.8)	236 (2.6)	263 (1.8)	287 (2.6)	309 (1.8)	322 (1.9)
North Carolina	254 (1.4) >	199 (3.5)	212 (2.4)	232 (1.5) >	255 (1.3) >	277 (1.4)	296 (1.6)	308 (2.6)
North Dakota	277 (1.3)	227 (1.6)	239 (1.4)	258 (1.7)	278 (1.0)	297 (2.0)	312 (2.0)	321 (1.6)
Ohio	262 (1.3)	206 (3.2)	220 (1.4)	241 (1.7)	263 (2.1)	284 (1.5)	301 (1.8)	313 (2.0)
Oklahoma	262 (1.3)	209 (2.3)	222 (1.6)	242 (1.6)	263 (1.3)	283 (1.1)	301 (1.9)	311 (1.5)
Pennsylvania	265 (1.5)	205 (3.1)	219 (3.1)	242 (1.9)	266 (1.5)	289 (1.6)	309 (1.9)	321 (3.8)
Rhode Island	259 (0.8) >	205 (2.5)	217 (1.9)	238 (1.4)	260 (1.5)	282 (1.6)	301 (1.4)	312 (2.5)
South Carolina	256 (1.2)	199 (2.0)	212 (1.2)	233 (1.0)	255 (1.7)	280 (1.8)	302 (2.4)	314 (2.6)
Tennessee	252 (1.5)	196 (3.5)	209 (3.2)	230 (1.8)	253 (1.8)	276 (1.4)	296 (2.1)	307 (4.4)
Texas	262 (1.5)	202 (3.2)	215 (2.3)	238 (2.1)	262 (1.3)	286 (1.9)	307 (1.7)	320 (2.7)
Utah	269 (1.2)	220 (2.9)	231 (1.9)	250 (1.8)	270 (1.2)	289 (1.4)	307 (1.9)	317 (1.9)
Virginia	261 (1.3)	206 (3.3)	218 (1.6)	238 (1.6)	261 (1.2)	284 (1.2)	305 (2.2)	317 (1.3)
West Virginia	254 (1.1)	204 (2.2)	215 (1.5)	234 (1.7)	254 (1.9)	275 (1.8)	293 (2.2)	303 (1.9)
Wisconsin	272 (1.6)	215 (2.5)	228 (2.0)	252 (2.1)	274 (1.8)	295 (2.0)	313 (1.5)	324 (2.2)
Wyoming	272 (0.7)	225 (2.0)	236 (1.8)	253 (1.1)	273 (1.0)	291 (0.7)	308 (1.6)	318 (2.0)
TERRITORIES								
Guam	239 (1.4)	185 (1.7) >	197 (2.5)	216 (2.2)	239 (1.2)	262 (2.1)	283 (2.3)	296 (2.5)
Virgin Islands	222 (0.8)	175 (3.0)	186 (1.5)	203 (1.3)	222 (1.1)	241 (1.5)	258 (2.7)	268 (2.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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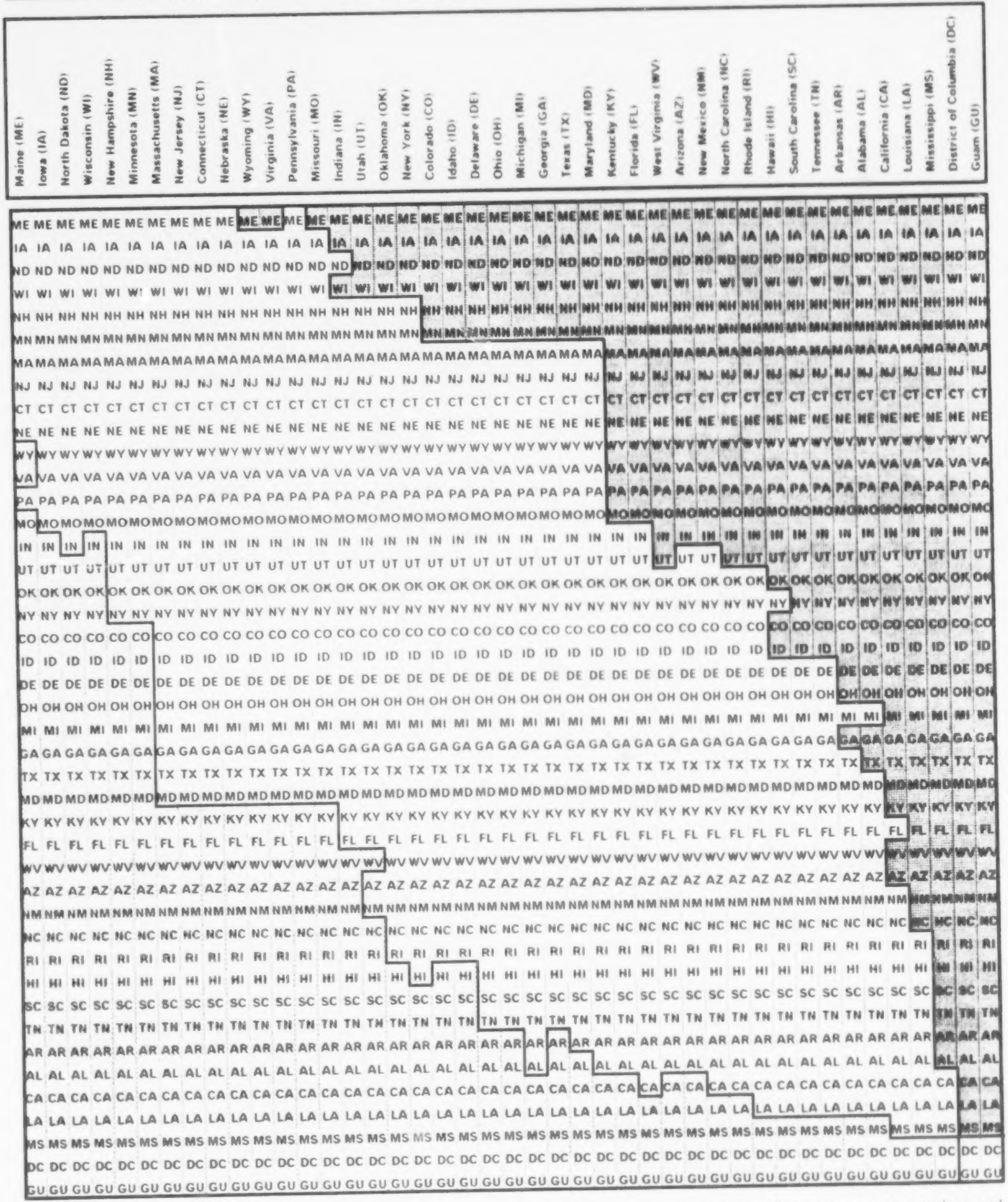
TABLE 3.9 | Percentiles of Proficiency in Geometry (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	259 (1.4)	199 (2.5)	213 (2.0)	236 (1.7)	260 (1.2)	284 (1.4)	303 (1.9)	316 (4.1)
Northeast	268 (3.3)	210 (8.8)	225 (6.2)	246 (3.9)	270 (2.5)	290 (4.8)	309 (2.3)	321 (3.6)
Southeast	251 (2.8)	191 (4.6)	204 (5.7)	227 (4.0)	251 (2.9)	275 (2.4)	295 (3.3)	307 (5.7)
Central	261 (2.7)	206(11.9)	218 (5.2)	239 (4.3)	263 (3.5)	285 (1.7)	302 (2.6)	314 (2.7)
West	260 (2.6)	200 (2.5)	213 (2.3)	236 (2.6)	261 (2.1)	284 (3.8)	305 (4.4)	319 (6.9)
STATES								
Alabama	249 (1.3)	194 (1.9)	206 (2.3)	226 (1.4)	249 (1.4)	273 (1.6)	293 (1.8)	306 (1.6)
Arizona	256 (1.3)	203 (3.0)	215 (1.9)	235 (1.5)	257 (1.7)	278 (1.4)	297 (2.0)	308 (1.8)
Arkansas	253 (0.9)	198 (2.6)	212 (1.5)	232 (1.5)	254 (0.9)	275 (1.4)	294 (1.5)	305 (2.4)
California	256 (1.3)	196 (2.1)	210 (1.7)	232 (1.6)	256 (2.0)	280 (1.7)	301 (1.5)	313 (1.6)
Colorado	266 (1.1)	213 (1.8)	226 (1.8)	245 (1.4)	266 (1.2)	287 (0.9)	305 (1.2)	315 (1.2)
Connecticut	266 (1.1)	205 (2.0)	220 (2.0)	243 (1.3)	267 (1.4)	291 (1.2)	312 (2.0)	324 (1.6)
Delaware	256 (1.1)	198 (2.4)	212 (2.4)	233 (1.7)	257 (1.1)	279 (1.0)	300 (2.7)	313 (2.0)
Dist. Columbia	229 (1.1)	176 (2.4)	187 (2.5)	207 (1.6)	228 (1.3)	250 (1.2)	271 (1.7)	286 (4.1)
Florida	251 (1.3)	190 (2.7)	204 (2.6)	227 (2.0)	252 (1.3)	276 (2.1)	296 (1.6)	309 (1.8)
Georgia	257 (1.4)	199 (2.1)	211 (1.6)	232 (1.6)	257 (1.9)	282 (2.1)	302 (2.8)	316 (2.0)
Hawaii	252 (0.7)	191 (1.2)	204 (1.3)	226 (1.2)	252 (0.9)	277 (1.4)	302 (1.8)	313 (1.7)
Idaho	269 (1.1)	221 (3.7)	232 (1.2)	250 (1.5)	270 (1.1)	288 (1.9)	305 (1.1)	315 (1.1)
Indiana	264 (1.2)	213 (2.4)	225 (2.2)	243 (1.5)	265 (1.3)	285 (1.2)	304 (2.0)	316 (2.4)
Iowa	274 (1.3)	223 (1.7)	234 (1.6)	254 (1.6)	275 (1.2)	295 (1.6)	314 (2.4)	325 (2.9)
Kentucky	253 (1.3)	201 (2.9)	212 (2.4)	232 (1.7)	253 (1.9)	275 (1.3)	294 (1.3)	306 (1.9)
Louisiana	243 (1.3)	185 (3.5)	199 (1.6)	220 (2.5)	243 (1.3)	266 (1.4)	286 (1.9)	297 (2.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	257 (1.5)	196 (3.0)	209 (2.3)	231 (2.2)	257 (1.4)	282 (1.7)	304 (3.0)	316 (2.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	261 (1.2)	207 (1.8)	219 (1.5)	239 (1.6)	262 (1.3)	283 (1.5)	303 (1.6)	315 (1.6)
Minnesota	272 (1.0)	216 (1.4)	230 (2.0)	251 (1.5)	273 (1.2)	294 (1.0)	313 (1.4)	325 (1.6)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	273 (1.2)	218 (4.0)	231 (2.5)	253 (1.5)	275 (1.0)	295 (1.0)	313 (1.6)	323 (1.4)
New Hampshire	271 (1.0)	220 (3.0)	232 (1.8)	251 (1.5)	272 (1.3)	292 (1.1)	311 (2.0)	322 (2.1)
New Jersey	266 (1.2)	208 (2.0)	220 (2.6)	243 (1.3)	266 (1.6)	290 (1.6)	310 (2.0)	323 (2.3)
New Mexico	257 (0.7)	208 (2.1)	219 (1.4)	237 (1.3)	257 (0.9)	277 (1.1)	295 (1.1)	305 (2.2)
New York	260 (1.5)	195 (3.2)	210 (4.3)	236 (2.6)	260 (1.6)	285 (1.4)	309 (2.4)	323 (2.1)
North Carolina	249 (1.1)	193 (1.5)	205 (1.4)	226 (1.4)	249 (1.1)	273 (1.6)	293 (2.2)	305 (1.6)
North Dakota	278 (1.3)	227 (2.8)	239 (2.3)	258 (1.4)	278 (2.0)	298 (1.6)	315 (2.2)	326 (3.0)
Ohio	260 (1.1)	205 (1.8)	218 (1.3)	239 (1.0)	261 (1.3)	282 (1.0)	302 (2.2)	314 (2.4)
Oklahoma	260 (1.4)	206 (2.2)	219 (1.5)	238 (1.4)	260 (1.7)	281 (1.4)	301 (1.6)	313 (2.5)
Pennsylvania	263 (1.7)	204 (4.9)	219 (3.5)	241 (1.9)	264 (1.7)	286 (2.0)	305 (1.5)	317 (2.2)
Rhode Island	256 (0.9)	199 (3.6)	212 (1.4)	233 (2.0)	256 (0.9)	279 (0.9)	300 (1.9)	313 (2.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	258 (1.4)	202 (2.1)	215 (3.5)	235 (1.4)	258 (1.6)	281 (1.3)	301 (1.7)	314 (2.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	261 (1.6)	204 (2.3)	215 (2.2)	236 (1.4)	259 (1.3)	285 (2.8)	309 (3.6)	323 (3.3)
West Virginia	254 (1.0)	202 (1.5)	213 (1.3)	233 (1.1)	254 (1.1)	275 (1.5)	295 (1.4)	307 (1.9)
Wisconsin	272 (1.5)	216 (2.3)	228 (2.2)	250 (1.8)	274 (1.6)	295 (1.7)	314 (2.5)	325 (1.7)
Wyoming	270 (0.7)	222 (1.5)	233 (1.4)	251 (0.8)	271 (1.1)	290 (1.1)	306 (1.8)	316 (1.5)
TERRITORIES								
Guam	236 (1.1)	178 (1.5)	189 (1.8)	211 (1.6)	237 (1.5)	262 (1.1)	283 (2.4)	294 (2.6)
Virgin Islands	223 (1.3)	177 (1.9)	187 (1.8)	204 (2.0)	224 (1.3)	241 (2.1)	258 (2.4)	267 (3.1)

(xxx) Did not participate in the 1990 Trial State Assessment.

FIGURE 3.10 Comparisons of Data Analysis, Statistics, and Probability Average Proficiency 1992 Grade 4

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.



▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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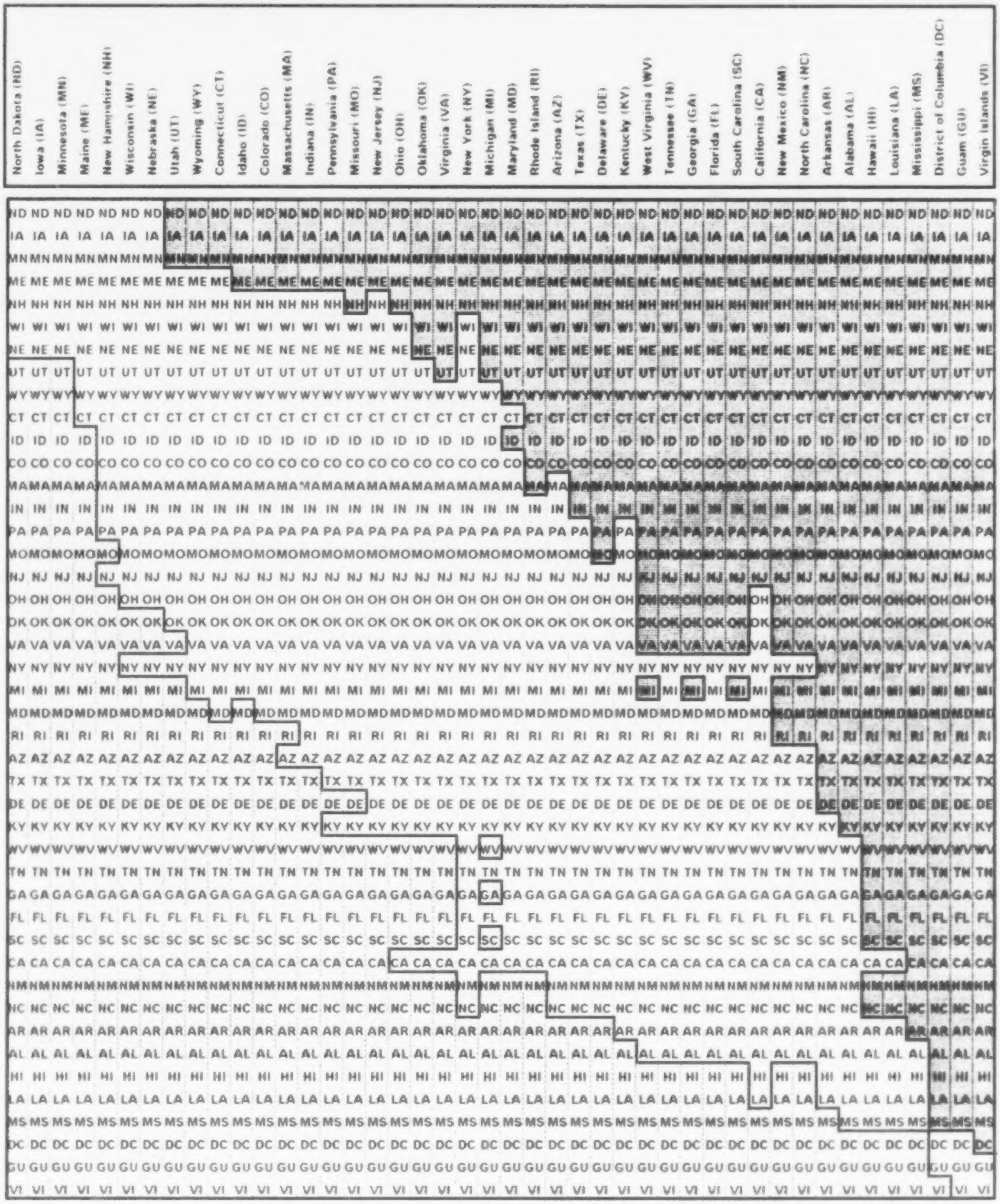
FIGURE 3.11 | Comparisons of Data Analysis, Statistics, and Probability Average Proficiency 1992 Grade 8

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.


North Dakota (ND)
Iowa (IA)
Minnesota (MN)
Maine (ME)
New Hampshire (NH)
Wisconsin (WI)
Nebraska (NE)
Utah (UT)
Wyoming (WY)
Connecticut (CT)
Idaho (ID)
Colorado (CO)
Massachusetts (MA)
Indiana (IN)
Pennsylvania (PA)
Missouri (MO)
New Jersey (NJ)
Ohio (OH)
Oklahoma (OK)
Virginia (VA)
New York (NY)
Michigan (MI)
Maryland (MD)
Rhode Island (RI)
Arizona (AZ)
Texas (TX)
Delaware (DE)
Kentucky (KY)
West Virginia (WV)
Tennessee (TN)
Georgia (GA)
Florida (FL)
South Carolina (SC)
California (CA)
New Mexico (NM)
North Carolina (NC)
Arkansas (AR)
Alabama (AL)
Hawaii (HI)
Louisiana (LA)
Mississippi (MS)
District of Columbia (DC)
Guam (GU)
Virgin Islands (VI)
ND
IA
MN
ME
NH
WI
NE
UT
WY
CT
ID
CO
MA
IN
PA
MO
NJ
OH
OK
VA
NY
MI
MD
RI
AZ
TX
DE
KY
WV
TN
GA
FL
SC
CA
NM
NC
AR
AL
HI
LA
MS
DC
GU
VI

▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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TABLE 3.10 | Percentiles of Proficiency in Data Analysis, Statistics, and Probability

PUBLIC SCHOOLS	Grade 4 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	218 (1.0)	160 (1.2)	173 (2.0)	196 (1.0)	220 (1.5)	242 (1.5)	260 (1.4)	270 (1.9)
Northeast	223 (2.3)	162 (2.7)	176 (3.3)	200 (2.9)	225 (3.9)	248 (4.1)	265 (3.2)	276 (3.4)
Southeast	21[illegible] (2.2)	154 (3.0)	166 (1.3)	187 (2.8)	211 (2.1)	233 (2.5)	252 (2.5)	264 (6.7)
Central	22[illegible] (2.3)	169 (5.3)	182 (3.9)	203 (3.0)	225 (2.5)	245 (2.7)	262 (1.8)	271 (2.4)
West	217 (1.9)	160 (2.1)	172 (2.5)	195 (2.7)	220 (2.9)	241 (1.7)	258 (3.5)	269 (3.2)
STATES								
Alabama	209 (1.7)	155 (1.9)	167 (2.5)	187 (1.9)	209 (2.8)	232 (1.4)	250 (1.4)	261 (2.2)
Arizona	214 (1.3)	160 (3.0)	172 (3.3)	193 (1.6)	216 (1.5)	236 (1.4)	253 (1.5)	263 (1.8)
Arkansas	211 (1.3)	156 (3.4)	169 (3.7)	190 (1.6)	212 (1.1)	233 (1.2)	250 (1.3)	260 (3.0)
California	206 (1.6)	137 (3.4)	153 (4.0)	181 (2.7)	208 (2.7)	233 (1.7)	254 (1.3)	265 (1.7)
Colorado	220 (1.2)	163 (3.2)	177 (2.6)	198 (1.9)	222 (0.9)	243 (0.9)	261 (1.5)	273 (2.3)
Connecticut	225 (1.7)	165 (4.0)	180 (3.4)	203 (1.8)	227 (1.8)	249 (1.9)	267 (2.4)	276 (3.0)
Delaware	219 (1.4)	167 (3.1)	178 (2.6)	197 (1.9)	220 (1.4)	241 (1.6)	260 (2.4)	271 (3.0)
Dist. Columbia	189 (0.9)	135 (1.5)	146 (1.6)	166 (1.4)	188 (1.3)	210 (1.7)	235 (1.6)	252 (2.7)
Florida	214 (1.5)	157 (5.1)	170 (2.5)	192 (2.4)	216 (1.6)	237 (1.5)	256 (1.7)	267 (2.9)
Georgia	218 (1.3)	165 (1.9)	176 (2.0)	197 (1.9)	219 (1.4)	241 (1.4)	259 (1.6)	269 (2.2)
Hawaii	212 (1.5)	155 (3.5)	168 (3.7)	190 (2.2)	213 (1.6)	235 (1.8)	254 (1.6)	264 (1.5)
Idaho	219 (1.0)	170 (2.6)	182 (2.0)	200 (1.9)	221 (1.3)	240 (0.8)	256 (1.7)	265 (1.1)
Indiana	222 (1.3)	174 (2.6)	184 (2.7)	203 (1.4)	222 (1.4)	242 (1.0)	258 (1.2)	268 (1.3)
Iowa	230 (1.0)	181 (1.8)	193 (1.3)	212 (1.2)	231 (0.9)	250 (1.6)	266 (1.6)	275 (1.4)
Kentucky	215 (1.4)	164 (2.5)	175 (2.0)	194 (1.6)	214 (1.6)	236 (1.9)	255 (2.1)	266 (1.6)
Louisiana	204 (1.8)	144 (2.6)	158 (4.0)	182 (3.4)	205 (1.7)	228 (2.0)	246 (1.4)	258 (1.6)
Maine	231 (1.3)	182 (3.4)	194 (2.4)	213 (1.4)	233 (2.3)	252 (1.4)	267 (1.4)	277 (2.4)
Maryland	217 (1.5)	157 (2.6)	170 (2.1)	193 (2.4)	219 (2.1)	243 (1.4)	262 (2.5)	273 (2.9)
Massachusetts	225 (1.5)	169 (2.1)	182 (1.6)	204 (2.0)	227 (1.3)	248 (1.5)	266 (1.5)	277 (1.6)
Michigan	218 (1.8)	159 (4.5)	175 (3.4)	199 (2.8)	221 (1.7)	241 (1.9)	257 (1.5)	266 (1.6)
Minnesota	227 (1.2)	174 (2.6)	187 (2.1)	208 (1.4)	229 (1.4)	248 (1.3)	264 (1.5)	273 (0.7)
Mississippi	199 (1.5)	143 (2.9)	155 (2.5)	176 (2.0)	199 (1.5)	222 (2.1)	242 (1.5)	253 (2.2)
Missouri	223 (1.4)	174 (2.4)	185 (2.0)	204 (1.8)	224 (1.5)	243 (2.8)	261 (1.8)	269 (2.4)
Nebraska	225 (1.7)	171 (3.5)	183 (3.0)	205 (1.7)	226 (2.1)	246 (1.8)	263 (2.1)	272 (2.0)
New Hampshire	229 (1.6)	177 (3.1)	189 (2.3)	208 (2.1)	229 (2.0)	250 (1.9)	268 (1.5)	278 (2.4)
New Jersey	225 (1.6)	170 (4.6)	183 (2.6)	204 (1.9)	227 (1.7)	247 (1.9)	265 (1.9)	274 (2.3)
New Mexico	214 (1.6)	163 (2.3)	174 (2.2)	193 (2.0)	214 (1.9)	234 (1.7)	252 (3.0)	263 (3.0)
New York	221 (1.6)	157 (4.0)	173 (2.9)	197 (2.0)	223 (1.3)	246 (1.6)	265 (2.2)	276 (1.9)
North Carolina	214 (1.3)	155 (2.7)	168 (1.6)	190 (2.1)	215 (1.6)	238 (0.9)	257 (1.8)	269 (2.4)
North Dakota	229 (1.3)	182 (3.0)	193 (2.0)	212 (1.5)	230 (1.0)	248 (1.5)	263 (1.3)	273 (1.7)
Ohio	218 (1.4)	165 (2.8)	178 (1.8)	198 (1.5)	220 (1.2)	240 (1.5)	258 (1.4)	268 (2.2)
Oklahoma	221 (1.5)	175 (1.8)	186 (3.0)	203 (1.5)	221 (1.5)	240 (1.3)	256 (2.2)	265 (2.7)
Pennsylvania	223 (1.5)	167 (3.0)	180 (1.5)	202 (1.9)	226 (1.7)	246 (1.7)	263 (1.5)	273 (1.5)
Rhode Island	213 (1.6)	153 (4.8)	168 (3.0)	191 (1.9)	215 (1.7)	236 (1.5)	254 (1.9)	266 (1.8)
South Carolina	211 (1.4)	157 (1.6)	169 (1.9)	188 (1.5)	211 (1.5)	234 (1.8)	254 (2.0)	265 (1.9)
Tennessee	211 (1.6)	156 (3.4)	168 (2.4)	189 (2.1)	212 (1.9)	234 (1.4)	251 (2.6)	262 (1.8)
Texas	218 (1.4)	168 (3.1)	179 (1.8)	198 (2.4)	219 (1.5)	239 (1.9)	256 (2.9)	266 (2.1)
Utah	221 (1.3)	170 (1.5)	183 (1.7)	202 (1.2)	223 (1.3)	242 (1.5)	258 (1.9)	268 (1.9)
Virginia	223 (1.3)	168 (2.6)	180 (2.0)	201 (1.5)	224 (1.8)	246 (1.7)	266 (2.3)	278 (4.3)
West Virginia	214 (1.2)	162 (1.9)	175 (1.4)	194 (1.0)	215 (1.2)	235 (1.4)	253 (1.5)	263 (1.9)
Wisconsin	229 (1.2)	179 (1.7)	191 (1.9)	211 (1.2)	231 (1.3)	248 (1.1)	264 (1.8)	273 (2.9)
Wyoming	224 (1.1)	177 (2.6)	189 (1.4)	207 (1.7)	225 (1.1)	243 (1.9)	259 (1.1)	267 (1.5)
TERRITORY								
Guam	189 (0.9)	130 (2.0)	143 (2.1)	166 (1.3)	190 (0.8)	213 (1.4)	235 (2.2)	247 (3.4)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 3.10 | Percentiles of Proficiency in Data Analysis, Statistics, and Probability (continued)

	Grade 8 - 1992							
PUBLIC SCHOOLS	**Average Proficiency**	**5th Percentile**	**10th Percentile**	**25th Percentile**	**50th Percentile**	**75th Percentile**	**90th Percentile**	**95th Percentile**
NATION	267 (1.2)	196 (1.8)	212 (1.3)	238 (1.4)	268 (1.4)	297 (1.6)	320 (1.9)	333 (2.6)
Northeast	269 (3.5)	198 (4.0)	213 (4.1)	238 (3.2)	268 (3.0)	300 (5.0)	326 (4.9)	340 (4.7)
Southeast	258 (1.7)	191 (4.5)	205 (2.6)	230 (2.7)	259 (1.8)	286 (2.4)	310 (2.3)	322 (2.5)
Central	274 (2.5)	206 (4.7)	222 (3.6)	248 (3.5)	276 (3.8)	302 (2.8)	323 (3.4)	335 (2.8)
West	267 (2.4)	195 (2.8)	211 (3.8)	238 (4.3)	269 (3.8)	298 (1.8)	321 (3.4)	335 (5.1)
STATES								
Alabama	250 (2.1)	184 (3.5)	198 (2.9)	222 (2.5)	250 (2.5)	279 (2.3)	304 (2.8)	319 (4.0)
Arizona	265 (1.7)	199 (3.2)	215 (4.0)	240 (1.8)	266 (1.9)	291 (1.6)	312 (2.1)	325 (2.6)
Arkansas	254 (1.5)	184 (2.8)	202 (1.9)	228 (1.6)	256 (1.8)	282 (1.2)	306 (2.3)	319 (2.2)
California	258 (2.2)	182 (3.7)	199 (4.6)	228 (2.5)	260 (2.5)	291 (2.5)	315 (2.1)	330 (5.5)
Colorado	274 (1.4)	207 (4.1)	223 (2.0)	249 (1.6)	276 (1.7)	301 (1.6) >	322 (1.7) >	333 (1.6) »
Connecticut	274 (1.5)	200 (3.5)	218 (4.2)	247 (2.4)	278 (2.1)	305 (1.5)	325 (1.8)	335 (2.5)
Delaware	262 (1.3)	191 (2.6)	209 (2.8)	235 (2.0)	263 (1.8)	291 (1.2)	316 (1.4)	330 (3.2)
Dist. Columbia	229 (1.2) >	164 (4.1)	177 (2.3)	201 (2.1)	228 (1.1)	255 (1.1)	280 (1.8)	295 (3.0)
Florida	259 (1.8)	185 (2.6)	202 (2.7)	230 (2.8)	261 (1.8)	289 (1.5)	312 (2.0)	325 (2.4)
Georgia	259 (1.6)	192 (2.8)	206 (3.3)	231 (1.8)	259 (1.7)	287 (2.5)	310 (2.0)	322 (2.1)
Hawaii	249 (1.5) >	176 (2.6) >	193 (2.0) >	220 (2.3) >	250 (1.3)	279 (1.9)	306 (3.0)	320 (2.6)
Idaho	274 (1.1)	214 (3.5)	228 (1.9)	251 (1.9)	275 (1.0)	298 (1.5)	318 (1.3)	329 (1.9)
Indiana	273 (1.5)	208 (4.1)	223 (2.7)	248 (1.4)	274 (2.3)	299 (1.6)	321 (1.6)	334 (2.7)
Iowa	285 (1.4)	225 (2.0)	239 (3.0)	262 (1.9)	286 (2.1)	309 (1.4) >	328 (2.0)	338 (2.9)
Kentucky	262 (1.8)	195 (3.0)	210 (1.9)	235 (1.7)	264 (1.9)	289 (2.5)	312 (2.0)	326 (3.2)
Louisiana	248 (1.9)	183 (2.6)	198 (2.9)	221 (1.8)	248 (1.5)	274 (2.9)	298 (3.1)	312 (3.3)
Maine	282 (1.4)	222 (2.4)	238 (2.6)	260 (2.1)	284 (1.4)	306 (2.1)	325 (1.8)	336 (2.1)
Maryland	266 (1.4)	193 (2.1)	209 (2.7)	237 (2.1)	268 (1.9)	298 (2.9)	321 (1.6)	334 (2.2)
Massachusetts	274 (1.5)	206 (5.0)	223 (1.7)	247 (2.0)	274 (2.3)	302 (2.0)	324 (1.9)	335 (2.8)
Michigan	268 (1.4)	199 (2.3)	216 (1.9)	243 (2.1)	269 (1.5)	295 (1.5)	316 (2.1)	328 (2.3)
Minnesota	284 (1.4) >	222 (2.5)	236 (2.0)	260 (2.8)	285 (1.6)	310 (1.5) »	330 (1.9) »	342 (2.7) >
Mississippi	243 (1.8)	174 (2.6)	188 (2.3)	214 (1.6)	243 (1.8)	273 (2.0)	299 (2.1)	314 (2.9)
Missouri	272 (1.6)	208 (3.0)	222 (2.3)	246 (2.3)	274 (1.8)	298 (1.2)	319 (2.1)	331 (2.5)
Nebraska	278 (1.7)	211 (2.7)	229 (2.6)	254 (1.6)	281 (2.0)	304 (2.0)	324 (1.8)	335 (3.1)
New Hampshire	281 (1.4) >	225 (2.1)	237 (1.9)	259 (1.3)	281 (1.7)	303 (1.7)	323 (2.1)	335 (4.2)
New Jersey	271 (2.1)	198 (4.9)	215 (3.4)	244 (3.8)	274 (3.8)	301 (2.7)	323 (2.0)	336 (1.8)
New Mexico	258 (1.4)	196 (4.6)	210 (2.7)	233 (1.7)	258 (1.1)	283 (1.2)	305 (2.3)	318 (3.6)
New York	268 (2.9)	183 (7.0)	206 (7.5)	239 (3.2)	272 (2.9)	300 (4.2)	324 (2.3)	338 (2.2)
North Carolina	258 (1.4) »	191 (2.4) »	205 (2.8) »	231 (2.4) »	258 (1.6)	285 (1.2)	309 (2.6)	324 (4.1)
North Dakota	286 (1.4)	233 (2.3)	244 (2.5)	265 (1.1)	287 (1.4)	308 (1.4)	325 (2.1)	336 (1.7)
Ohio	270 (2.1)	202 (3.8)	218 (2.2)	243 (2.4)	272 (3.2)	297 (3.7)	320 (2.4)	332 (2.1)
Oklahoma	269 (1.5)	206 (2.1)	220 (2.0)	245 (1.9)	270 (1.8)	294 (1.7)	315 (2.8)	327 (2.4)
Pennsylvania	273 (1.8)	206 (4.5)	221 (2.5)	247 (2.0)	275 (1.9)	300 (1.9)	322 (1.9) >	334 (2.6)
Rhode Island	266 (1.2) »	195 (2.4)	212 (2.2)	240 (1.0) »	268 (1.6) >	294 (1.9)	315 (2.9)	328 (2.2)
South Carolina	258 (1.4)	192 (3.1)	206 (2.2)	230 (1.3)	258 (1.8)	287 (2.4)	312 (2.7)	326 (2.5)
Tennessee	259 (1.6)	191 (2.9)	206 (2.8)	232 (1.7)	260 (1.6)	287 (1.7)	310 (2.1)	323 (3.3)
Texas	263 (1.6)	193 (2.6)	208 (1.8)	233 (1.8)	263 (1.9)	293 (2.2)	319 (2.3)	334 (4.8)
Utah	275 (1.1)	212 (3.4)	228 (2.8)	253 (1.6)	278 (1.5)	301 (1.5)	320 (1.4)	331 (1.9)
Virginia	268 (1.4)	199 (2.2)	214 (2.2)	239 (2.2)	269 (1.7)	297 (1.5)	321 (1.6)	335 (1.2)
West Virginia	260 (1.2)	200 (3.9)	214 (1.8)	236 (1.3)	260 (1.2)	285 (1.3)	304 (1.7)	316 (1.4)
Wisconsin	280 (2.1)	213 (3.1)	230 (4.0)	257 (2.8)	283 (1.5)	307 (2.6)	326 (3.1)	337 (3.3)
Wyoming	275 (1.3)	217 (3.2)	230 (2.0)	252 (2.1)	276 (1.5)	298 (1.0)	318 (1.4)	329 (2.1)
TERRITORIES								
Guam	221 (1.9) >	149 (3.7) »	163 (3.1) >	190 (3.1) >	219 (1.7)	253 (2.6)	282 (2.1)	301 (4.0)
Virgin Islands	214 (2.5) »	155 (4.0) >	168 (4.0) >	189 (2.9) »	214 (2.6) »	238 (2.3) »	260 (2.4)	273 (4.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

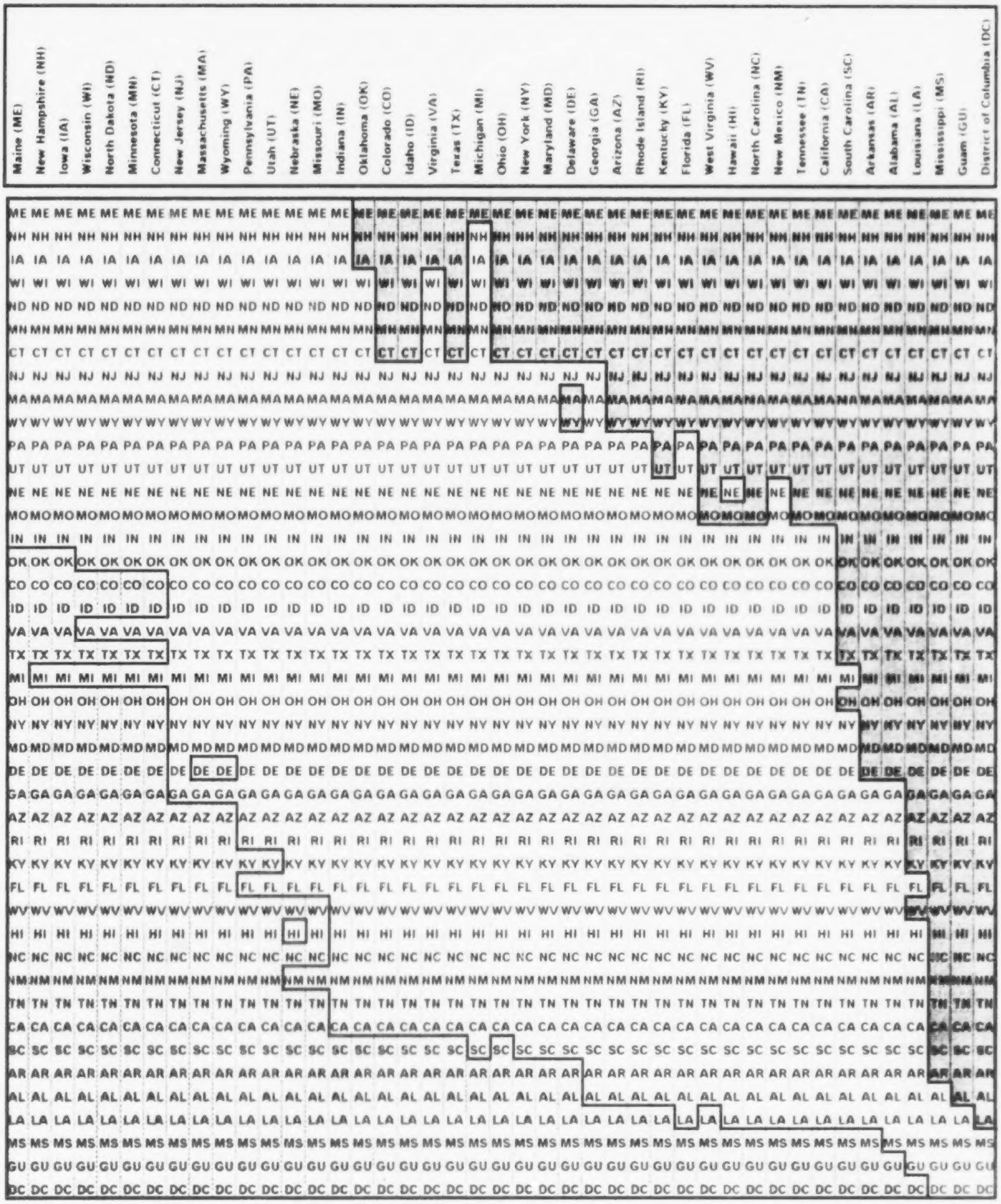
TABLE 3.10 | Percentiles of Proficiency in Data Analysis, Statistics, and Probability (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	262 (1.6)	191 (2.3)	207 (3.1)	234 (2.0)	264 (1.4)	292 (1.4)	313 (1.6)	326 (1.8)
Northeast	273 (3.9)	207 (4.7)	224 (9.8)	248 (4.8)	275 (3.3)	300 (5.9)	320 (2.6)	332 (4.7)
Southeast	253 (3.2)	182 (9.1)	199 (4.7)	223 (4.8)	254 (3.2)	284 (2.6)	306 (5.3)	320 (4.2)
Central	265 (2.6)	197 (9.4)	213 (4.7)	239 (2.4)	268 (2.7)	293 (2.1)	312 (2.2)	324 (3.3)
West	261 (3.2)	189 (5.3)	206 (4.2)	232 (3.8)	263 (2.5)	290 (5.3)	313 (4.4)	328 (2.4)
STATES								
Alabama	251 (1.5)	186 (3.3)	199 (1.7)	224 (2.2)	252 (1.4)	279 (1.8)	303 (2.3)	316 (1.6)
Arizona	259 (1.9)	190 (2.9)	206 (1.8)	232 (2.6)	260 (2.2)	287 (1.9)	309 (1.6)	321 (4.5)
Arkansas	255 (1.1)	191 (1.5)	207 (1.4)	230 (2.2)	256 (1.2)	281 (1.5)	301 (1.3)	312 (3.3)
California	255 (1.6)	181 (1.9)	198 (2.3)	226 (2.3)	256 (1.2)	285 (1.5)	308 (2.7)	323 (4.2)
Colorado	270 (1.1)	209 (2.1)	224 (2.3)	247 (1.3)	272 (1.2)	294 (1.0)	313 (1.3)	324 (1.3)
Connecticut	271 (1.5)	202 (3.4)	221 (4.1)	247 (1.7)	274 (1.4)	299 (1.5)	320 (1.8)	331 (3.2)
Delaware	262 (1.5)	194 (3.1)	210 (2.1)	235 (1.5)	262 (1.8)	290 (2.2)	313 (2.4)	326 (3.4)
Dist. Columbia	223 (1.4)	157 (2.2)	171 (1.8)	194 (1.5)	221 (1.8)	250 (2.0)	278 (2.8)	296 (4.0)
Florida	255 (1.7)	184 (3.0)	199 (3.3)	227 (3.4)	256 (3.1)	285 (2.6)	310 (1.7)	324 (1.9)
Georgia	260 (1.6)	190 (3.6)	205 (2.4)	231 (1.5)	261 (1.8)	290 (2.3)	314 (2.8)	330 (3.2)
Hawaii	243 (1.1)	162 (2.3)	180 (2.7)	209 (2.0)	244 (1.6)	278 (1.4)	306 (1.6)	320 (1.3)
Idaho	273 (0.8)	220 (2.3)	232 (1.5)	253 (1.2)	275 (0.7)	295 (1.7)	312 (1.3)	322 (1.8)
Indiana	269 (1.3)	209 (2.8)	222 (2.0)	245 (1.5)	270 (1.5)	294 (1.8)	315 (1.9)	326 (1.9)
Iowa	280 (1.2)	226 (1.7)	238 (1.4)	259 (1.2)	281 (1.0)	302 (1.4)	321 (1.7)	331 (2.9)
Kentucky	258 (1.3)	193 (3.0)	208 (1.8)	231 (2.0)	258 (1.5)	285 (1.3)	309 (1.7)	322 (2.6)
Louisiana	243 (1.6)	174 (1.6)	190 (2.2)	216 (1.6)	244 (1.7)	272 (1.8)	296 (2.0)	308 (3.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	261 (1.7)	193 (4.9)	208 (2.2)	233 (2.3)	263 (2.1)	290 (2.1)	313 (2.3)	325 (2.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	265 (1.7)	197 (2.8)	212 (2.3)	239 (1.9)	267 (2.1)	292 (2.3)	313 (2.1)	326 (2.4)
Minnesota	279 (1.1)	221 (3.7)	235 (2.4)	258 (1.3)	281 (1.3)	302 (1.0)	319 (1.2)	331 (1.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	278 (1.1)	216 (2.0)	232 (2.7)	256 (1.8)	280 (1.0)	302 (1.3)	322 (1.6)	332 (1.6)
New Hampshire	275 (1.2)	218 (2.8)	231 (2.3)	253 (1.8)	276 (1.3)	298 (1.3)	318 (1.9)	330 (2.1)
New Jersey	270 (1.4)	202 (3.1)	217 (1.9)	243 (2.5)	271 (2.7)	299 (1.7)	321 (2.0)	333 (2.7)
New Mexico	253 (1.3)	187 (2.1)	202 (1.3)	226 (1.5)	254 (1.4)	281 (1.5)	304 (1.7)	319 (2.8)
New York	263 (1.7)	183 (4.1)	204 (3.9)	234 (3.3)	265 (1.6)	293 (1.3)	318 (3.1)	333 (3.9)
North Carolina	248 (1.6)	178 (1.9)	193 (1.2)	218 (1.7)	249 (2.1)	279 (1.6)	302 (2.6)	315 (2.8)
North Dakota	285 (1.6)	230 (7.3)	245 (2.4)	266 (2.4)	287 (2.1)	306 (2.0)	324 (2.8)	336 (5.9)
Ohio	266 (1.1)	204 (1.8)	219 (1.5)	243 (1.3)	268 (1.2)	292 (1.3)	311 (1.7)	322 (2.3)
Oklahoma	264 (2.1)	202 (5.0)	217 (3.4)	240 (2.8)	265 (2.1)	289 (3.8)	311 (3.2)	323 (2.1)
Pennsylvania	268 (1.9)	204 (4.4)	219 (3.6)	244 (2.9)	269 (2.5)	293 (1.2)	313 (1.5)	325 (1.4)
Rhode Island	259 (0.7)	188 (2.0)	205 (1.3)	232 (1.1)	261 (0.9)	289 (1.1)	311 (1.3)	323 (2.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	257 (1.8)	188 (4.6)	203 (3.3)	229 (2.8)	257 (1.8)	286 (1.9)	311 (2.8)	324 (3.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	264 (1.9)	196 (1.5)	210 (1.5)	235 (1.8)	264 (1.9)	293 (2.6)	318 (2.9)	334 (3.9)
West Virginia	256 (1.6)	195 (2.5)	210 (3.4)	232 (1.9)	256 (1.7)	281 (1.9)	303 (2.2)	316 (4.1)
Wisconsin	277 (1.4)	213 (2.5)	229 (2.5)	254 (1.9)	279 (1.9)	302 (1.2)	321 (1.6)	332 (1.4)
Wyoming	273 (1.0)	222 (2.2)	234 (2.2)	253 (1.4)	274 (1.2)	294 (1.3)	311 (1.8)	322 (2.4)
TERRITORIES								
Guam	214 (1.2)	126 (3.2)	144 (3.6)	176 (2.0)	214 (2.0)	251 (1.9)	284 (2.4)	300 (3.5)
Virgin Islands	196 (2.0)	126 (6.0)	142 (6.3)	168 (2.4)	195 (2.7)	224 (2.0)	252 (3.0)	268 (2.4)

(xxx) Did not participate in the 1990 Trial State Assessment.

FIGURE 3.12 | **Comparisons of Algebra and Functions Average Proficiency 1992 Grade 4**

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.


Maine (ME)
New Hampshire (NH)
Iowa (IA)
Wisconsin (WI)
North Dakota (ND)
Minnesota (MN)
Connecticut (CT)
New Jersey (NJ)
Massachusetts (MA)
Wyoming (WY)
Pennsylvania (PA)
Utah (UT)
Nebraska (NE)
Missouri (MO)
Indiana (IN)
Oklahoma (OK)
Colorado (CO)
Idaho (ID)
Virginia (VA)
Texas (TX)
Michigan (MI)
Ohio (OH)
New York (NY)
Maryland (MD)
Delaware (DE)
Georgia (GA)
Arizona (AZ)
Rhode Island (RI)
Kentucky (KY)
Florida (FL)
West Virginia (WV)
Hawaii (HI)
North Carolina (NC)
New Mexico (NM)
Tennessee (TN)
California (CA)
South Carolina (SC)
Arkansas (AR)
Alabama (AL)
Louisiana (LA)
Mississippi (MS)
Guam (GU)
District of Columbia (DC)
ME
NH
IA
WI
ND
MN
CT
NJ
MA
WY
PA
UT
NE
MO
IN
OK
CO
ID
VA
TX
MI
OH
NY
MD
DE
GA
AZ
RI
KY
FL
WV
HI
NC
NM
TN
CA
SC
AR
AL
LA
MS
GU
DC

■ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

▨ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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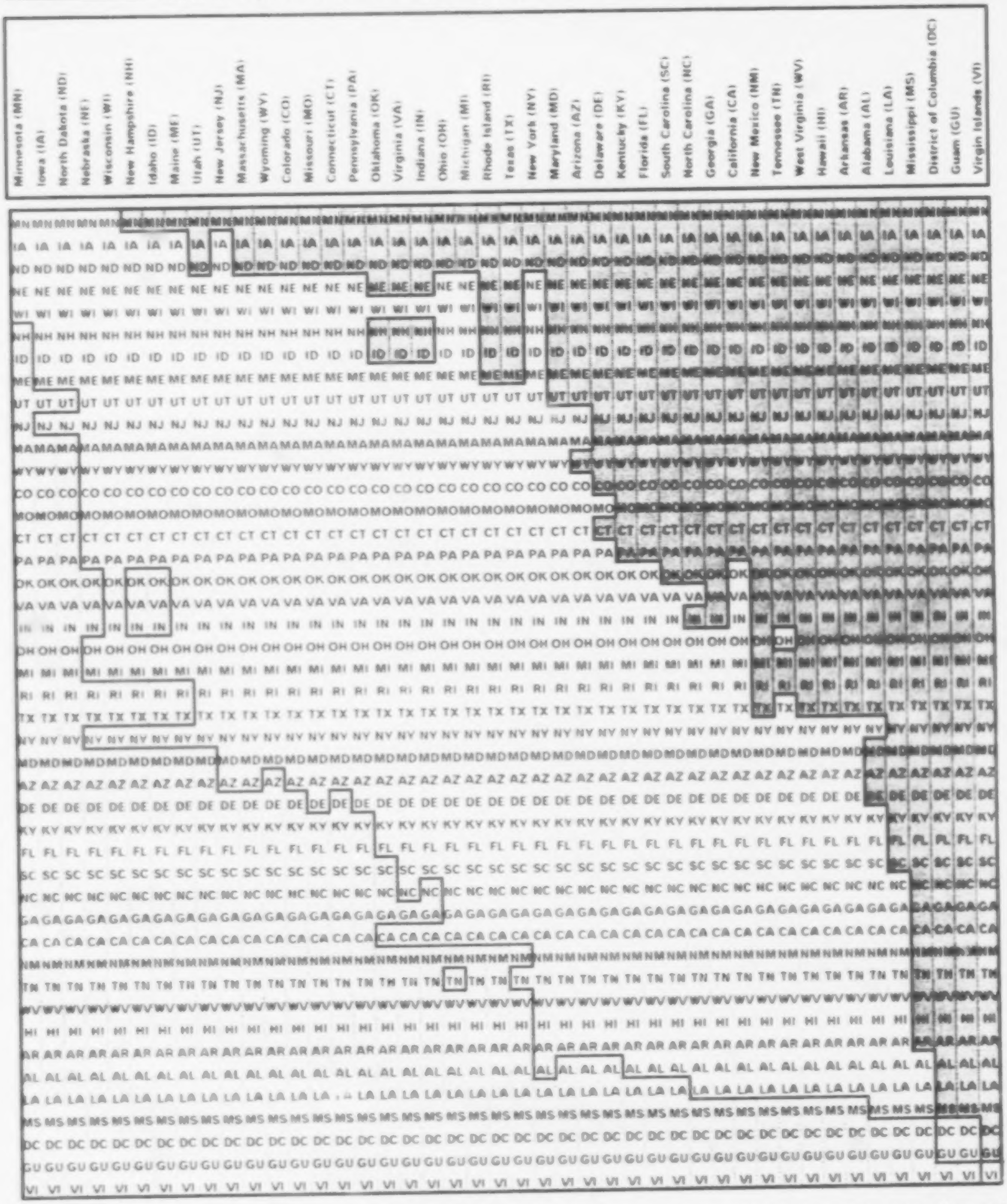
FIGURE 3.13 | Comparisons of Algebra and Functions Average Proficiency 1992 Grade 8

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.



☐ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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TABLE 3.11 | Percentiles of Proficiency in Algebra and Functions

PUBLIC SCHOOLS	Grade 4 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	216 (0.9)	158 (1.5)	171 (1.5)	193 (1.0)	217 (1.4)	239 (1.5)	258 (1.4)	269 (1.4)
Northeast	222 (2.2)	162 (2.3)	177 (2.2)	200 (3.0)	224 (3.4)	246 (3.9)	265 (3.0)	276 (3.4)
Southeast	206 (2.2)	149 (3.8)	162 (3.6)	183 (2.1)	207 (2.0)	229 (3.6)	250 (3.4)	262 (4.8)
Central	220 (2.1)	165 (4.6)	178 (3.3)	200 (3.9)	221 (2.3)	242 (3.1)	260 (1.5)	270 (2.2)
West	215 (1.9)	158 (3.1)	171 (2.8)	193 (1.4)	217 (3.2)	239 (3.6)	257 (3.4)	268 (2.7)
STATES								
Alabama	204 (1.8)	147 (2.8)	159 (2.8)	181 (1.8)	204 (1.8)	228 (2.6)	248 (2.1)	259 (3.2)
Arizona	213 (1.6)	160 (3.0)	171 (2.4)	191 (2.1)	213 (1.6)	235 (2.0)	254 (2.4)	265 (3.3)
Arkansas	206 (1.0)	152 (2.8)	163 (1.8)	184 (1.7)	207 (1.4)	228 (1.1)	247 (1.0)	258 (3.3)
California	208 (2.0)	149 (3.0)	162 (2.5)	185 (3.0)	210 (2.4)	232 (2.1)	251 (2.5)	263 (2.5)
Colorado	217 (1.3)	159 (3.1)	172 (1.6)	194 (2.0)	219 (1.5)	241 (1.7)	260 (1.2)	272 (2.0)
Connecticut	225 (1.4)	165 (2.9)	179 (2.2)	202 (2.1)	227 (2.0)	249 (1.9)	267 (1.4)	278 (1.1)
Delaware	215 (1.3)	157 (4.2)	169 (2.8)	190 (2.2)	214 (1.2)	239 (1.4)	261 (1.9)	273 (2.0)
Dist. Columbia	191 (0.7)	137 (2.7)	149 (1.7)	167 (1.3)	189 (0.7)	212 (1.9)	235 (1.9)	252 (2.1)
Florida	211 (2.3)	154 (2.3)	167 (3.1)	188 (2.6)	212 (2.1)	234 (2.3)	254 (3.8)	266 (4.1)
Georgia	213 (2.4)	151 (4.2)	166 (4.1)	189 (3.2)	214 (2.4)	239 (1.6)	261 (3.3)	273 (3.3)
Hawaii	210 (1.7)	150 (1.7)	164 (3.5)	187 (2.7)	211 (2.0)	235 (2.2)	255 (1.7)	266 (2.8)
Idaho	217 (1.2)	165 (2.2)	177 (1.3)	197 (1.7)	218 (1.5)	238 (1.4)	255 (2.5)	264 (1.7)
Indiana	218 (1.9)	168 (3.2)	179 (3.1)	197 (2.7)	218 (1.7)	239 (1.7)	258 (2.3)	269 (1.1)
Iowa	226 (1.4)	172 (2.2)	185 (1.1)	206 (1.4)	227 (1.4)	248 (1.2)	265 (1.9)	275 (1.8)
Kentucky	212 (1.5)	161 (2.4)	172 (2.8)	191 (1.8)	211 (1.5)	234 (1.7)	254 (1.8)	265 (2.1)
Louisiana	201 (2.0)	144 (5.3)	157 (3.6)	179 (2.6)	201 (1.7)	224 (2.1)	244 (2.6)	256 (3.3)
Maine	228 (1.8)	172 (5.3)	186 (4.5)	207 (1.5)	229 (1.7)	251 (1.6)	268 (1.6)	278 (3.9)
Maryland	215 (1.4)	155 (3.4)	169 (2.5)	191 (1.6)	216 (1.4)	240 (1.7)	260 (1.4)	271 (1.8)
Massachusetts	222 (1.4)	163 (2.9)	177 (1.6)	200 (1.9)	223 (1.4)	246 (1.6)	265 (2.4)	277 (2.3)
Michigan	216 (2.2)	155 (1.8)	171 (1.8)	194 (2.7)	218 (2.3)	240 (2.0)	258 (2.9)	267 (2.7)
Minnesota	225 (1.1)	167 (4.4)	181 (3.3)	204 (1.4)	226 (0.9)	247 (1.6)	266 (1.3)	276 (2.1)
Mississippi	195 (1.3)	137 (2.9)	150 (2.0)	171 (1.9)	195 (1.9)	219 (1.4)	241 (2.2)	252 (1.9)
Missouri	220 (1.3)	166 (2.4)	179 (1.7)	198 (1.3)	220 (1.3)	241 (1.4)	261 (1.3)	271 (2.4)
Nebraska	220 (1.7)	160 (2.9)	174 (2.2)	197 (1.9)	222 (2.2)	244 (2.3)	263 (2.6)	274 (1.9)
New Hampshire	227 (1.5)	172 (3.0)	184 (2.1)	205 (1.9)	227 (1.6)	249 (1.6)	268 (2.1)	279 (1.8)
New Jersey	224 (2.0)	162 (3.5)	177 (3.4)	201 (1.8)	226 (1.5)	249 (1.8)	268 (2.6)	279 (4.2)
New Mexico	210 (2.0)	156 (2.5)	168 (2.8)	188 (2.7)	210 (3.0)	232 (2.2)	252 (2.7)	264 (2.5)
New York	215 (1.7)	154 (3.6)	169 (3.9)	192 (2.7)	216 (1.4)	240 (2.4)	261 (2.6)	273 (3.5)
North Carolina	210 (1.4)	157 (2.7)	168 (1.6)	188 (1.6)	211 (1.6)	232 (1.7)	251 (1.3)	262 (1.4)
North Dakota	225 (1.2)	175 (1.9)	186 (2.0)	205 (2.0)	226 (1.2)	245 (1.2)	262 (1.7)	272 (2.6)
Ohio	216 (1.4)	157 (3.5)	171 (3.1)	193 (2.0)	217 (1.4)	240 (1.6)	260 (1.5)	272 (1.8)
Oklahoma	217 (1.5)	167 (2.5)	179 (2.0)	197 (2.1)	218 (1.8)	238 (2.2)	255 (2.6)	266 (3.0)
Pennsylvania	221 (1.4)	165 (2.9)	178 (2.4)	200 (2.3)	223 (2.0)	245 (2.0)	262 (1.4)	272 (1.8)
Rhode Island	212 (1.9)	153 (3.6)	168 (2.9)	191 (2.2)	213 (2.2)	236 (2.6)	255 (2.7)	266 (3.0)
South Carolina	207 (1.5)	147 (3.3)	160 (2.3)	182 (2.1)	206 (1.7)	232 (1.4)	255 (1.7)	268 (2.9)
Tennessee	209 (1.7)	156 (3.3)	167 (2.6)	188 (1.8)	209 (1.6)	230 (2.0)	249 (2.7)	260 (3.7)
Texas	216 (1.4)	162 (1.2)	175 (1.3)	195 (1.6)	217 (2.0)	238 (1.8)	257 (2.7)	269 (2.8)
Utah	221 (1.1)	165 (2.3)	179 (2.6)	200 (1.1)	222 (1.1)	243 (1.0)	262 (1.6)	272 (1.3)
Virginia	217 (1.6)	159 (2.2)	171 (2.6)	193 (1.8)	217 (2.2)	241 (2.3)	262 (2.5)	275 (2.9)
West Virginia	211 (1.4)	156 (1.7)	169 (1.7)	189 (2.0)	211 (1.9)	233 (1.7)	252 (2.8)	264 (2.4)
Wisconsin	225 (1.4)	171 (4.0)	184 (1.7)	205 (1.9)	227 (1.7)	247 (1.1)	265 (1.2)	276 (2.1)
Wyoming	222 (1.2)	171 (1.7)	183 (2.1)	202 (1.3)	222 (1.3)	242 (1.4)	260 (1.5)	269 (1.8)
TERRITORY								
Guam	192 (1.0)	134 (3.9)	146 (3.3)	168 (1.7)	192 (1.1)	216 (1.8)	238 (1.6)	249 (2.7)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

Percentiles of Proficiency in Algebra and Functions (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	266 (1.1)	204 (1.6)	218 (1.5)	240 (1.3)	266 (1.3)	291 (1.4)	314 (2.1)	327 (2.4)
Northeast	266 (2.8)	203 (1.3)	216 (2.9)	239 (2.6)	266 (3.8)	294 (3.7)	319 (2.7)	333 (2.9)
Southeast	259 (1.3)	201 (5.3)	214 (2.1)	234 (1.2)	259 (2.4)	284 (2.5)	306 (2.5)	318 (3.2)
Central	272 (2.5)	213 (4.1)	226 (2.4)	249 (2.7)	273 (3.7)	296 (3.0)	316 (2.6)	327 (3.2)
West	266 (2.6)	202 (2.4)	217 (2.3)	240 (2.7)	266 (2.9)	291 (1.9)	314 (4.9)	329 (5.4)
STATES								
Alabama	253 (1.9)	193 (3.0)	206 (2.5)	228 (1.9)	252 (1.9)	278 (1.9)	300 (2.1)	313 (2.8)
Arizona	264 (1.5) >	208 (2.0)	221 (2.6) >	242 (1.5) >	264 (1.8)	286 (1.5)	305 (1.4)	317 (1.8)
Arkansas	255 (1.5)	196 (2.1)	209 (1.9)	231 (1.6)	255 (1.9)	279 (1.7)	301 (2.5)	314 (2.0)
California	258 (2.2)	191 (2.5)	206 (2.6)	231 (2.5)	259 (1.6)	286 (2.0)	309 (1.9)	321 (3.9)
Colorado	270 (1.1) >	213 (2.1)	225 (2.1)	248 (1.8)	272 (1.4)	294 (1.0)	313 (1.2)	323 (1.4)
Connecticut	270 (1.4)	205 (4.2)	220 (3.0)	245 (1.5)	272 (1.5)	297 (1.6)	317 (2.6)	328 (2.3)
Delaware	263 (1.3)	200 (2.3)	214 (3.4)	238 (1.7)	262 (1.3)	288 (1.8)	311 (1.7)	324 (3.9)
Dist. Columbia	237 (1.1)	169 (2.9)	185 (1.4)	208 (1.8)	236 (2.1)	263 (1.9)	291 (3.4)	307 (5.2)
Florida	260 (1.6)	196 (3.3)	211 (4.2)	234 (2.8)	261 (2.4)	287 (2.4)	310 (2.0)	323 (1.9)
Georgia	259 (1.4)	198 (4.2)	211 (2.8)	234 (2.3)	260 (2.1)	284 (1.6)	306 (2.7)	317 (1.3)
Hawaii	256 (1.1) »	191 (2.0)	206 (2.7)	229 (1.2) »	256 (1.1) »	284 (1.8)	308 (1.5)	323 (2.2)
Idaho	274 (0.9) >	219 (2.0)	232 (1.5)	253 (1.2)	275 (0.9)	296 (1.1)	314 (0.9)	324 (1.9)
Indiana	267 (1.3)	208 (3.8)	222 (1.9)	244 (1.5)	267 (1.2)	291 (2.2)	312 (2.7)	324 (3.2)
Iowa	280 (1.2) >	229 (2.7)	240 (2.2)	259 (1.2)	280 (1.2)	301 (1.5)	318 (1.1)	328 (2.5)
Kentucky	260 (1.4)	199 (3.1)	213 (2.6)	237 (2.0)	262 (1.5) >	284 (1.5)	307 (2.2)	319 (2.7)
Louisiana	249 (1.9)	191 (2.8)	204 (2.4)	226 (2.2)	250 (2.2)	273 (1.9)	295 (2.2)	306 (3.2)
Maine	274 (1.2)	221 (2.7)	233 (2.4)	254 (1.7)	274 (1.1)	295 (0.9)	314 (1.7)	325 (1.9)
Maryland	264 (1.6)	197 (3.1)	211 (2.5)	236 (2.2)	265 (1.9)	293 (2.6)	316 (2.0)	328 (1.5)
Massachusetts	271 (1.4)	214 (1.5)	227 (1.3)	248 (1.7)	273 (1.9)	297 (1.7)	315 (1.9)	326 (2.1)
Michigan	267 (1.6)	204 (3.9)	218 (2.4)	242 (1.5)	268 (1.8)	292 (2.6)	313 (2.7)	325 (2.3)
Minnesota	281 (1.1) »	224 (2.8)	238 (2.1)	259 (2.4)	282 (1.6) >	304 (1.3) »	323 (1.9)	335 (1.9)
Mississippi	245 (1.6)	182 (2.2)	196 (2.1)	219 (1.6)	245 (1.7)	271 (1.8)	293 (2.5)	307 (4.1)
Missouri	270 (1.4)	215 (2.6)	228 (1.4)	248 (1.6)	271 (2.1)	292 (1.6)	312 (1.3)	324 (1.8)
Nebraska	275 (1.5)	216 (4.5)	232 (1.8)	254 (1.4)	277 (2.1)	299 (2.3)	317 (2.4)	328 (2.3)
New Hampshire	274 (1.0)	221 (1.9)	234 (2.1)	253 (1.2)	275 (1.2)	296 (1.4)	315 (1.6)	325 (1.8)
New Jersey	272 (1.8)	209 (4.2)	223 (3.9)	247 (2.3)	273 (1.5)	298 (1.6)	319 (2.4)	331 (3.8)
New Mexico	257 (1.1)	202 (3.1)	214 (1.9)	235 (1.4)	258 (1.2)	280 (1.4)	300 (1.9)	312 (2.7)
New York	265 (2.4)	196 (4.7)	213 (5.7)	241 (3.1)	267 (1.9)	291 (2.0)	313 (2.6)	325 (2.9)
North Carolina	259 (1.5) »	197 (4.7)	211 (2.1) >	234 (1.9) >	259 (1.4) >	284 (1.2)	307 (1.9)	319 (2.5)
North Dakota	279 (1.2)	230 (2.2)	241 (1.9)	260 (1.6)	280 (1.6)	299 (2.1)	316 (1.6)	326 (2.5)
Ohio	267 (1.8)	209 (2.5)	222 (3.0)	244 (2.4)	267 (1.9)	290 (1.9)	310 (2.3)	322 (2.2)
Oklahoma	267 (1.3)	210 (3.9)	224 (2.7)	246 (1.7)	268 (1.4)	290 (1.5)	309 (1.9)	320 (2.4)
Pennsylvania	270 (1.5)	209 (3.3)	223 (2.5)	246 (2.3)	271 (1.9)	295 (2.0)	315 (2.0)	326 (3.5)
Rhode Island	266 (1.3) >	208 (2.3) >	221 (2.1) >	243 (1.6) >	267 (1.7)	289 (1.9)	309 (2.5)	320 (1.6)
South Carolina	259 (1.3)	200 (1.7)	213 (1.8)	233 (1.7)	258 (1.5)	285 (1.0)	308 (2.1)	322 (2.5)
Tennessee	257 (1.7)	199 (4.5)	212 (3.5)	233 (2.1)	257 (2.1)	281 (2.0)	301 (2.3)	313 (2.1)
Texas	266 (1.4) »	203 (2.9)	217 (2.4)	239 (1.8) >	266 (1.8) >	291 (1.9)	315 (2.0) >	327 (3.4)
Utah	272 (1.0)	217 (2.1)	229 (1.9)	250 (1.6)	273 (1.3)	296 (1.2)	314 (1.6)	325 (1.7)
Virginia	267 (1.4)	205 (3.8)	219 (1.6)	241 (1.5)	267 (1.7)	292 (1.8)	315 (1.8)	328 (2.2)
West Virginia	257 (1.3)	201 (2.2)	213 (1.9)	234 (2.3)	257 (1.8)	280 (1.2)	300 (1.5)	311 (2.2)
Wisconsin	275 (1.6)	215 (2.3)	229 (2.5)	253 (2.6)	277 (1.8)	299 (1.9)	317 (1.6)	328 (1.8)
Wyoming	271 (1.2)	220 (1.5)	232 (2.1)	250 (1.2)	271 (1.2)	292 (1.2)	312 (1.8)	324 (2.0)
TERRITORIES								
Guam	235 (1.1) >	167 (2.0)	181 (3.0)	206 (1.7)	235 (1.4) >	264 (1.5) »	291 (2.0) >	305 (2.3)
Virgin Islands	221 (1.2)	161 (2.8)	176 (2.1)	197 (1.7)	222 (1.1)	245 (1.4)	267 (1.7)	281 (3.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

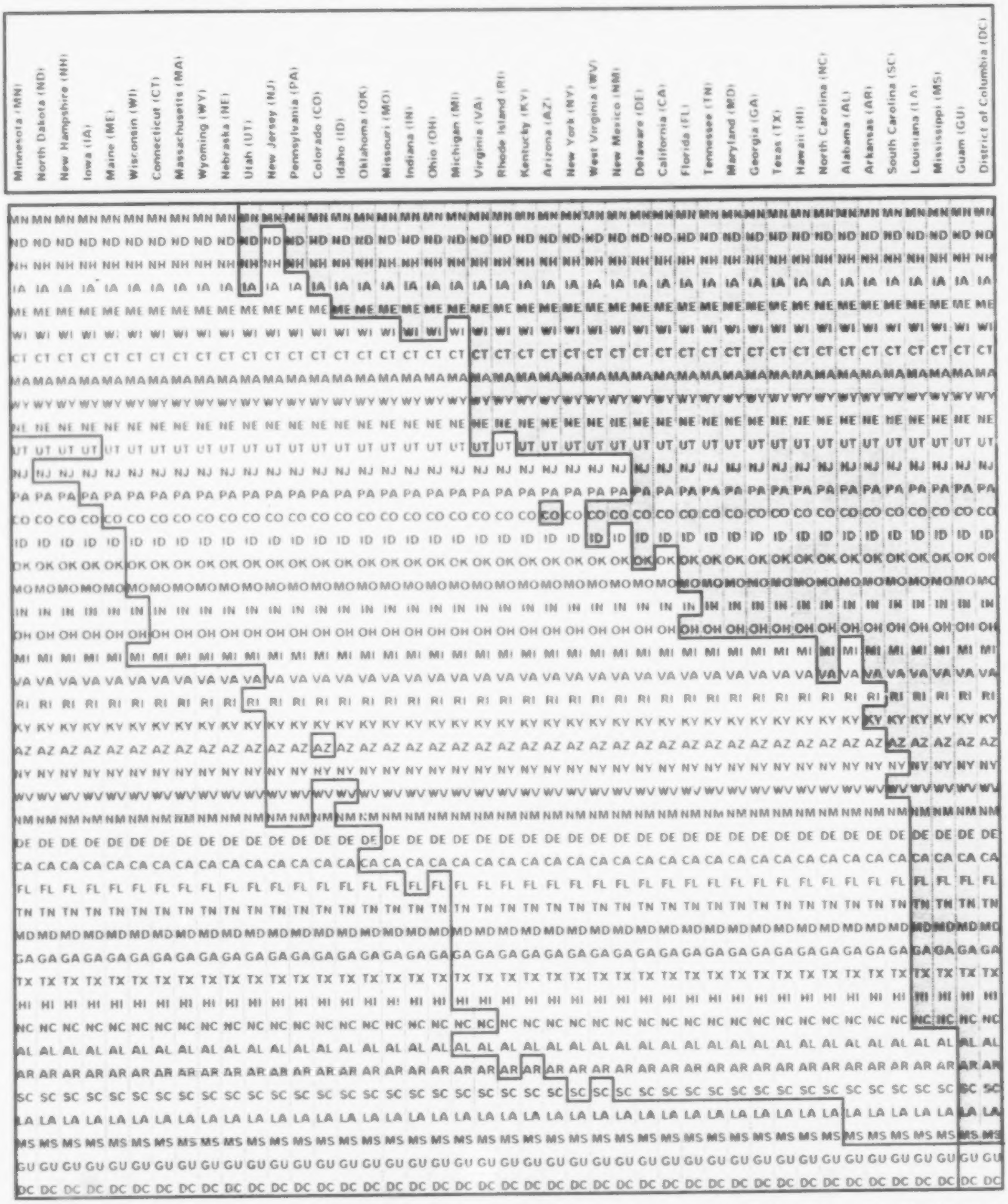
TABLE 3.11 | Percentiles of Proficiency in Algebra and Functions (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	260 (1.3)	199 (1.9)	212 (2.6)	235 (1.7)	261 (1.5)	286 (1.6)	308 (2.6)	322 (2.7)
Northeast	268 (3.3)	210 (5.4)	223 (4.8)	244 (5.1)	268 (4.8)	292 (4.8)	311 (3.1)	323 (5.5)
Southeast	256 (2.4)	195 (5.8)	207 (4.4)	229 (2.9)	254 (2.7)	282 (4.5)	305 (5.6)	319 (3.3)
Central	262 (2.4)	203 (5.5)	215 (5.1)	238 (2.6)	263 (3.8)	286 (2.4)	304 (3.6)	317 (5.8)
West	259 (2.6)	196 (4.2)	210 (1.8)	234 (2.4)	259 (2.2)	285 (2.9)	310 (4.9)	325 (3.2)
STATES								
Alabama	252 (1.3)	193 (2.1)	205 (1.9)	227 (2.3)	252 (1.4)	276 (1.3)	298 (1.4)	310 (1.4)
Arizona	258 (1.5)	196 (3.5)	210 (1.3)	233 (2.1)	258 (2.4)	283 (1.7)	306 (1.9)	319 (1.7)
Arkansas	253 (1.1)	196 (1.8)	209 (1.2)	230 (1.2)	253 (1.4)	276 (1.2)	296 (1.7)	309 (2.0)
California	256 (1.3)	193 (1.9)	207 (2.3)	230 (1.0)	256 (2.1)	283 (2.1)	306 (2.3)	319 (3.9)
Colorado	266 (1.0)	205 (1.6)	220 (1.5)	243 (1.4)	267 (1.5)	290 (1.1)	310 (1.2)	323 (1.8)
Connecticut	268 (1.5)	206 (4.9)	220 (2.2)	243 (1.7)	269 (1.6)	294 (1.7)	315 (1.7)	328 (2.5)
Delaware	259 (1.0)	197 (5.4)	211 (2.3)	233 (1.1)	259 (1.8)	286 (1.4)	307 (2.2)	320 (3.7)
Dist. Columbia	235 (1.1)	179 (1.7)	191 (1.5)	211 (1.7)	234 (1.3)	258 (1.8)	281 (1.7)	295 (2.0)
Florida	255 (1.5)	193 (1.8)	207 (4.1)	230 (2.5)	255 (1.4)	281 (1.4)	306 (2.1)	319 (2.3)
Georgia	257 (1.5)	193 (1.4)	206 (1.4)	230 (1.6)	258 (1.6)	285 (2.0)	308 (2.1)	322 (3.3)
Hawaii	249 (1.0)	183 (3.9)	196 (2.0)	220 (1.3)	248 (1.6)	279 (2.0)	303 (1.7)	316 (1.2)
Idaho	270 (0.9)	217 (2.1)	228 (1.7)	249 (1.1)	270 (1.0)	291 (1.4)	310 (1.6)	322 (1.7)
Indiana	265 (1.2)	208 (2.3)	220 (2.2)	242 (1.8)	265 (1.4)	289 (1.4)	309 (3.2)	324 (1.6)
Iowa	275 (1.2)	223 (2.0)	233 (1.8)	253 (1.6)	276 (1.4)	296 (1.7)	314 (1.0)	326 (2.6)
Kentucky	257 (1.3)	202 (3.0)	214 (2.4)	233 (2.7)	255 (1.2)	279 (2.0)	301 (2.1)	314 (1.5)
Louisiana	246 (1.5)	189 (2.4)	202 (1.8)	222 (1.7)	245 (1.9)	269 (1.7)	291 (2.0)	302 (1.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	262 (1.6)	196 (1.5)	209 (3.1)	234 (2.6)	264 (1.6)	292 (3.1)	314 (2.3)	328 (3.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	264 (1.3)	206 (1.9)	219 (1.7)	241 (1.7)	264 (1.4)	288 (2.3)	308 (1.6)	320 (2.1)
Minnesota	274 (1.1)	216 (2.8)	230 (1.7)	252 (1.0)	275 (1.2)	296 (1.0)	316 (1.5)	328 (1.6)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	273 (1.0)	214 (3.3)	229 (1.9)	251 (1.8)	275 (1.1)	296 (1.0)	315 (1.4)	328 (2.0)
New Hampshire	272 (1.0)	218 (2.6)	230 (2.3)	250 (1.6)	272 (1.1)	294 (1.9)	314 (2.3)	325 (2.3)
New Jersey	268 (1.4)	209 (2.4)	222 (1.3)	243 (2.2)	268 (1.8)	293 (1.0)	315 (3.1)	328 (3.0)
New Mexico	257 (0.9)	201 (1.6)	213 (1.0)	233 (1.3)	256 (0.8)	280 (1.2)	301 (1.6)	314 (1.3)
New York	260 (1.4)	199 (3.4)	214 (2.4)	237 (3.0)	261 (1.6)	285 (1.2)	305 (2.1)	319 (2.4)
North Carolina	251 (1.2)	190 (2.7)	203 (1.6)	225 (1.5)	252 (1.4)	278 (1.6)	300 (1.4)	312 (1.7)
North Dakota	275 (1.2)	224 (3.0)	236 (2.3)	257 (1.7)	277 (1.1)	295 (1.9)	312 (2.1)	322 (2.2)
Ohio	262 (1.0)	205 (1.4)	218 (1.1)	239 (1.8)	262 (1.4)	286 (1.6)	307 (1.2)	321 (2.0)
Oklahoma	262 (1.3)	210 (1.5)	222 (2.1)	241 (1.4)	262 (1.3)	284 (1.3)	304 (1.3)	315 (3.0)
Pennsylvania	265 (1.6)	205 (3.8)	219 (3.2)	242 (2.0)	266 (1.9)	290 (2.0)	310 (1.8)	320 (2.2)
Rhode Island	261 (0.9)	197 (1.9)	211 (1.5)	234 (1.5)	261 (1.4)	289 (1.4)	310 (1.0)	322 (3.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	256 (1.6)	196 (3.3)	208 (3.1)	231 (1.3)	256 (2.4)	282 (2.4)	305 (1.5)	318 (3.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	265 (1.6)	203 (1.7)	215 (1.4)	237 (2.2)	265 (1.2)	292 (3.4)	316 (2.9)	332 (4.1)
West Virginia	254 (1.1)	195 (2.0)	208 (1.3)	230 (1.1)	254 (0.9)	278 (1.2)	299 (1.1)	312 (2.0)
Wisconsin	271 (1.2)	213 (2.3)	227 (2.5)	248 (1.8)	271 (1.2)	294 (1.2)	313 (1.8)	325 (2.2)
Wyoming	270 (0.8)	217 (2.1)	229 (1.4)	249 (1.6)	270 (1.1)	292 (1.3)	312 (1.5)	323 (1.1)
TERRITORIES								
Guam	230 (1.0)	170 (3.0)	182 (2.7)	203 (1.6)	229 (1.2)	255 (1.3)	281 (2.2)	295 (2.8)
Virgin Islands	219 (1.5)	167 (2.2)	179 (2.8)	197 (1.5)	218 (1.8)	239 (2.3)	260 (2.8)	275 (3.0)

(xxx) Did not participate in the 1990 Trial State Assessment.

FIGURE 3.14 | Comparisons of Estimation Average Proficiency 1992 Grade 4

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.



Minnesota (MN)	North Dakota (ND)	New Hampshire (NH)	Iowa (IA)	Maine (ME)	Wisconsin (WI)	Connecticut (CT)	Massachusetts (MA)	Wyoming (WY)	Nebraska (NE)	Utah (UT)	New Jersey (NJ)	Pennsylvania (PA)	Colorado (CO)	Idaho (ID)	Oklahoma (OK)	Missouri (MO)	Indiana (IN)	Ohio (OH)	Michigan (MI)	Virginia (VA)	Rhode Island (RI)	Kentucky (KY)	Arizona (AZ)	New York (NY)	West Virginia (WV)	New Mexico (NM)	Delaware (DE)	California (CA)	Florida (FL)	Tennessee (TN)	Maryland (MD)	Georgia (GA)	Texas (TX)	Hawaii (HI)	North Carolina (NC)	Alabama (AL)	Arkansas (AR)	South Carolina (SC)	Louisiana (LA)	Mississippi (MS)	Guam (GU)	District of Columbia (DC)
MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN	MN
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH	NH
IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA	IA
ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME
WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI
CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT	CT
MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA
WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY	WY
NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT	UT
NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA	PA
CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO	CO
ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO	MO
IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN
OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH	OH
MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI	MI
VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA	VA
RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI	RI
KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY
AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ	AZ
NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY	NY
WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV	WV
NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE	DE
CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA	CA
FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL	FL
TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN	TN
MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD
GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA	GA
TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX	TX
HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI
NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL	AL
AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR
SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC	SC
LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA
MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS
GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU	GU
DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC

☐ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

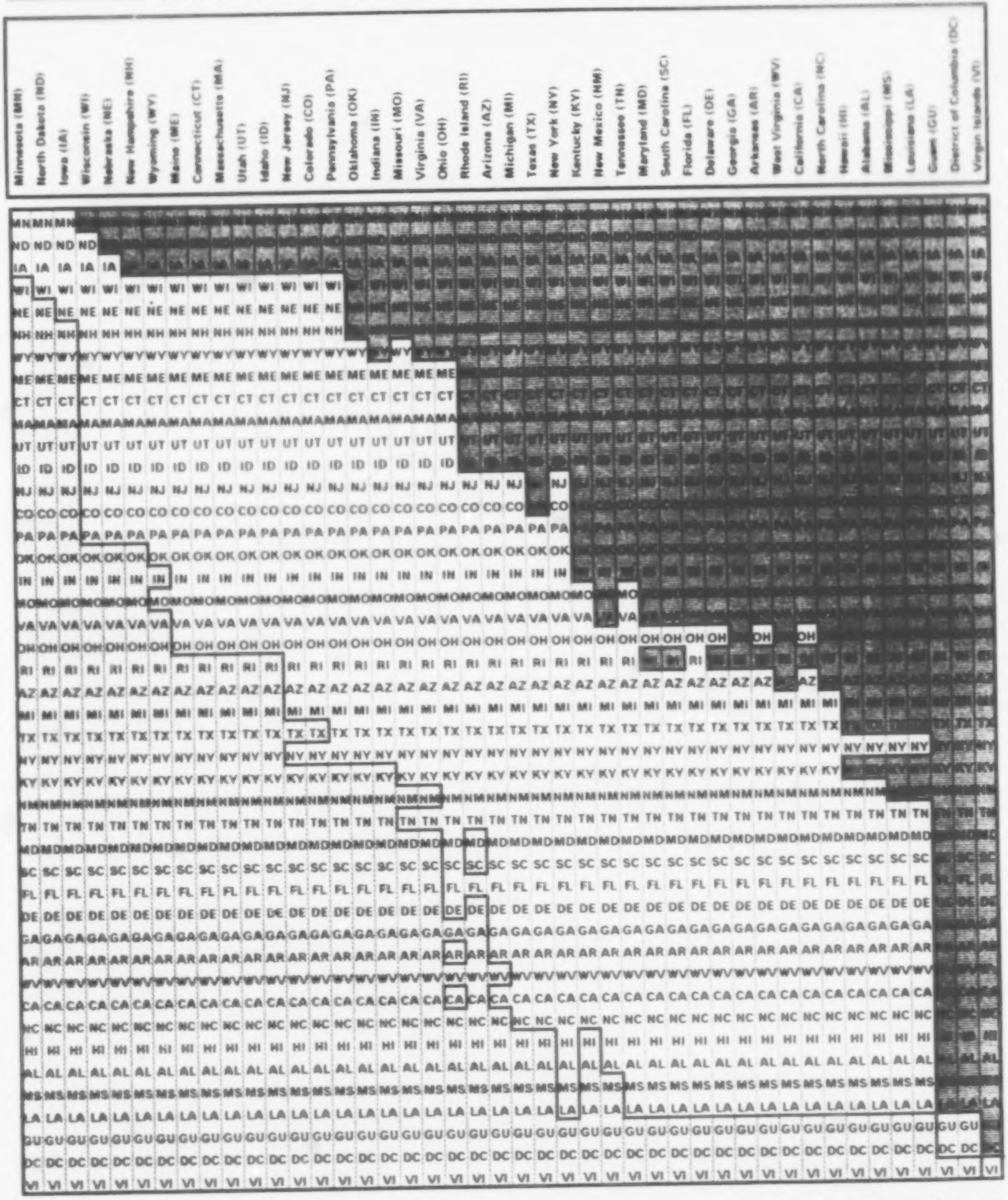
☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

FIGURE 3.15 | **Comparisons of Estimation Average Proficiency 1992 Grade 8**

THE NATION'S REPORT CARD naep

INSTRUCTIONS: Read *down* the column directly under a state name listed in the heading at the top of the chart. Match the shading intensity surrounding a state postal abbreviation to the key below to determine whether the average mathematics performance of this state is higher than, the same as, or lower than the state in the column heading.


Minnesota (MN)
North Dakota (ND)
Iowa (IA)
Wisconsin (WI)
Nebraska (NE)
New Hampshire (NH)
Wyoming (WY)
Maine (ME)
Connecticut (CT)
Massachusetts (MA)
Utah (UT)
Idaho (ID)
New Jersey (NJ)
Colorado (CO)
Pennsylvania (PA)
Oklahoma (OK)
Indiana (IN)
Missouri (MO)
Virginia (VA)
Ohio (OH)
Rhode Island (RI)
Arizona (AZ)
Michigan (MI)
Texas (TX)
New York (NY)
Kentucky (KY)
New Mexico (NM)
Tennessee (TN)
Maryland (MD)
South Carolina (SC)
Florida (FL)
Delaware (DE)
Georgia (GA)
Arkansas (AR)
West Virginia (WV)
California (CA)
North Carolina (NC)
Hawaii (HI)
Alabama (AL)
Mississippi (MS)
Louisiana (LA)
Guam (GU)
District of Columbia (DC)
Virgin Islands (VI)
MN ND IA WI NE NH WY ME CT MA UT ID NJ CO PA OK IN MO VA OH RI AZ MI TX NY KY NM TN MD SC FL DE GA AR WV CA NC HI AL MS LA GU DC VI

▨ State has statistically significantly higher average proficiency than the state listed at the top of the chart.

☐ No statistically significant difference from the state listed at the top of the chart.

☐ State has statistically significantly lower average proficiency than the state listed at the top of the chart.

The between state comparisons take into account sampling and measurement error and that each state is being compared with every other state. Significance is determined by an application of the Bonferroni procedure based on 946 comparisons by comparing the difference between the two means with four times the square root of the sum of the squared standard errors.

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TABLE 3.12 | Percentiles of Proficiency in Estimation

PUBLIC SCHOOLS	Grade 4 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	206 (1.8)	144 (3.0)	157 (5.2)	182 (1.8)	207 (2.0)	232 (2.5)	252 (2.1)	263 (2.4)
Northeast	205 (6.8)!	138 (7.7)!	152 (7.5)!	177 (6.2)!	205(11.1)!	236 (9.0)!	256 (8.2)!	266 (7.6)!
Southeast	195 (3.9)	133(10.0)	146 (6.6)	170 (5.3)	196 (3.3)	220 (3.9)	243 (4.8)	254 (6.5)
Central	212 (4.3)	151(12.1)	164(11.0)	189 (6.4)	215 (5.8)	238 (4.8)	254 (3.9)	265 (4.5)
West	213 (3.5)	160 (6.6)	170 (9.4)	191 (3.2)	213 (4.0)	236 (3.3)	254 (6.0)	264 (6.0)
STATES								
Alabama	198 (1.9)	137 (3.3)	150 (2.6)	172 (2.3)	198 (1.6)	223 (1.8)	245 (2.3)	256 (2.0)
Arizona	205 (1.4)	146 (2.0)	159 (1.9)	181 (2.5)	206 (1.7)	229 (1.4)	249 (1.2)	260 (3.0)
Arkansas	197 (1.6)	133 (2.4)	148 (3.2)	173 (2.7)	198 (1.6)	222 (1.4)	243 (1.4)	254 (1.8)
California	202 (1.8)	144 (2.8)	157 (2.0)	179 (2.0)	204 (2.0)	226 (2.2)	246 (1.5)	257 (2.6)
Colorado	212 (1.2)	155 (2.2)	169 (1.5)	190 (1.8)	214 (1.2)	235 (1.0)	253 (2.2)	263 (1.4)
Connecticut	217 (1.4)	156 (3.2)	171 (3.1)	194 (1.6)	219 (1.5)	242 (1.5)	260 (1.3)	271 (1.6)
Delaware	203 (1.5)	140 (3.0)	154 (2.9)	177 (2.0)	203 (1.6)	229 (2.2)	251 (2.1)	264 (1.9)
Dist. Columbia	171 (1.0)	114 (1.8)	126 (1.4)	145 (1.1)	168 (1.1)	192 (1.2)	218 (1.9)	239 (2.3)
Florida	200 (1.9)	137 (3.4)	152 (2.3)	176 (1.7)	202 (1.7)	225 (2.1)	247 (2.4)	259 (3.7)
Georgia	199 (1.5)	137 (2.1)	151 (2.0)	173 (2.4)	200 (2.4)	226 (2.0)	247 (1.5)	258 (1.9)
Hawaii	199 (1.7)	142 (3.2)	156 (2.5)	176 (2.0)	199 (1.8)	222 (2.1)	241 (2.7)	252 (2.6)
Idaho	211 (1.2)	157 (2.6)	170 (2.3)	191 (1.6)	213 (1.5)	234 (1.2)	251 (1.6)	261 (2.0)
Indiana	210 (1.6)	154 (2.0)	166 (2.8)	187 (1.7)	210 (1.4)	234 (1.9)	254 (1.7)	266 (1.3)
Iowa	221 (1.4)	161 (2.8)	176 (1.9)	198 (1.6)	222 (1.1)	245 (1.7)	264 (1.7)	274 (2.6)
Kentucky	205 (1.3)	151 (3.1)	162 (2.3)	182 (1.2)	205 (1.2)	228 (2.0)	248 (2.7)	260 (2.2)
Louisiana	188 (1.7)	129 (3.1)	143 (1.8)	164 (2.6)	189 (2.6)	213 (1.5)	234 (2.2)	247 (2.0)
Maine	220 (1.5)	169 (4.7)	180 (2.3)	200 (1.7)	221 (1.7)	241 (1.3)	257 (1.8)	267 (2.2)
Maryland	200 (1.5)	132 (2.7)	147 (2.6)	172 (2.3)	200 (2.0)	229 (1.4)	251 (2.0)	264 (2.6)
Massachusetts	217 (1.4)	154 (3.1)	170 (2.0)	194 (1.9)	219 (1.4)	241 (1.6)	260 (2.3)	270 (2.4)
Michigan	209 (2.2)	138 (4.9)	157 (4.4)	185 (1.6)	213 (2.4)	236 (2.7)	255 (1.7)	265 (2.9)
Minnesota	223 (1.4)	167 (1.5)	181 (2.3)	202 (1.7)	225 (1.5)	246 (1.4)	263 (1.8)	273 (2.7)
Mississippi	188 (1.6)	130 (6.2)	143 (2.6)	165 (1.8)	188 (1.5)	212 (1.6)	233 (1.3)	244 (1.7)
Missouri	211 (1.7)	151 (2.6)	165 (2.5)	187 (1.9)	211 (2.3)	235 (2.1)	256 (1.6)	267 (2.1)
Nebraska	216 (1.5)	157 (3.2)	171 (1.3)	194 (2.1)	217 (2.0)	239 (1.3)	257 (2.0)	268 (2.5)
New Hampshire	222 (1.5)	168 (2.5)	181 (2.1)	202 (1.6)	222 (1.4)	244 (2.1)	262 (1.9)	272 (2.1)
New Jersey	213 (1.9)	146 (4.3)	163 (4.7)	190 (2.0)	216 (1.7)	240 (2.3)	257 (1.5)	268 (1.7)
New Mexico	203 (1.8)	150 (2.6)	161 (2.0)	181 (1.7)	203 (1.8)	225 (1.9)	244 (1.6)	254 (2.7)
New York	204 (1.8)	135 (6.4)	152 (3.3)	179 (2.6)	206 (1.2)	231 (1.8)	252 (1.8)	263 (2.3)
North Carolina	198 (1.4)	135 (2.1)	148 (2.0)	172 (1.3)	199 (1.6)	224 (1.6)	246 (1.6)	258 (2.8)
North Dakota	222 (1.3)	169 (3.1)	182 (2.0)	203 (1.2)	223 (1.4)	243 (1.3)	259 (1.7)	269 (2.1)
Ohio	210 (1.4)	151 (2.2)	164 (1.9)	186 (2.1)	210 (1.8)	234 (1.7)	254 (1.9)	266 (2.0)
Oklahoma	211 (1.4)	158 (2.9)	170 (2.4)	190 (2.6)	212 (1.2)	233 (2.1)	251 (1.6)	262 (2.5)
Pennsylvania	212 (1.6)	148 (3.3)	164 (4.1)	189 (2.1)	215 (1.5)	239 (1.8)	257 (1.6)	268 (2.6)
Rhode Island	206 (1.8)	147 (3.7)	161 (3.0)	184 (2.2)	207 (2.1)	229 (1.9)	248 (2.1)	258 (2.0)
South Carolina	195 (1.5)	134 (3.1)	147 (1.1)	169 (1.4)	196 (2.3)	222 (2.3)	244 (2.2)	255 (1.8)
Tennessee	200 (1.5)	144 (3.1)	157 (2.5)	178 (1.0)	201 (1.7)	223 (1.1)	243 (2.4)	253 (1.7)
Texas	199 (1.7)	135 (2.8)	149 (2.5)	174 (2.4)	200 (1.5)	226 (2.3)	248 (1.8)	261 (1.6)
Utah	213 (1.0)	159 (2.1)	172 (1.7)	193 (1.3)	214 (1.1)	235 (0.9)	253 (1.9)	264 (1.8)
Virginia	206 (1.5)	143 (3.2)	157 (2.2)	180 (1.6)	206 (1.9)	232 (2.3)	255 (2.7)	268 (3.6)
West Virginia	204 (1.4)	150 (2.7)	162 (3.0)	182 (1.7)	204 (1.5)	226 (1.5)	245 (1.6)	257 (2.5)
Wisconsin	219 (1.7)	164 (2.3)	177 (2.3)	199 (1.9)	221 (2.2)	242 (1.6)	260 (1.6)	270 (1.7)
Wyoming	216 (1.1)	167 (2.6)	179 (2.3)	198 (1.7)	218 (1.3)	237 (1.4)	252 (0.9)	262 (2.2)
TERRITORY								
Guam	173 (0.8)	115 (2.3)	127 (2.0)	149 (1.6)	173 (1.2)	196 (1.0)	216 (1.6)	229 (1.3)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 3.12 | Percentiles of Proficiency in Estimation (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Average Proficiency	5th Percentile	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	95th Percentile
NATION	269 (1.5)	221 (3.1)	232 (1.9)	250 (1.9)	271 (1.5)	290 (1.5)	305 (2.3)	314 (1.9)
Northeast	269 (5.1)	210 (5.0)	222 (3.9)	244(10.7)	272 (5.2)	294 (6.6)	311 (7.4)	319 (7.0)
Southeast	264 (2.6)	219 (6.2)	231 (4.2)	247 (3.7)	264 (2.8)	282 (3.8)	297 (3.1)	307 (4.2)
Central	274 (2.6)	230 (3.6)	239 (4.2)	257 (7.8)	277 (5.5)	292 (3.6)	307 (6.2)	315 (3.7)
West	270 (2.0)	227 (4.5)	236 (3.7)	251 (3.2)	271 (2.4)	288 (4.1)	304 (2.6)	313 (5.0)
STATES								
Alabama	260 (1.1)	217 (1.3)	226 (1.4)	242 (1.2)	259 (1.5)	277 (1.4)	294 (1.4)	304 (1.6)
Arizona	269 (1.1)	226 (1.6)	235 (2.0)	251 (1.4)	269 (1.1)	286 (1.0)	302 (1.2)	311 (2.0)
Arkansas	263 (1.3)	216 (2.8)	227 (2.1)	245 (1.9)	264 (1.3)	282 (1.4)	299 (1.0)	307 (1.8)
California	263 (1.4)	212 (4.6)	223 (2.4)	242 (1.1)	264 (1.4)	284 (1.6)	301 (1.7)	309 (2.4)
Colorado	273 (0.9)	229 (2.3)	239 (1.1)	256 (1.5)	274 (1.0)	290 (0.9)	304 (1.0)	312 (1.6)
Connecticut	275 (1.1)	225 (1.2)	237 (2.0)	256 (2.0)	276 (1.0)	296 (1.2)	311 (0.9)	319 (1.6)
Delaware	264 (0.9)	215 (2.1)	226 (1.7)	245 (0.9)	265 (1.4)	284 (1.1)	301 (0.9)	310 (1.3)
Dist. Columbia	241 (0.8)	195 (2.3)	205 (1.7)	221 (1.4)	240 (1.3)	260 (1.4)	278 (1.1)	289 (2.2)
Florida	264 (1.1)	216 (2.2)	227 (1.4)	245 (1.6)	264 (1.3)	284 (1.4)	300 (1.4)	310 (1.4)
Georgia	263 (0.9)	219 (2.3)	229 (1.2)	245 (1.0)	264 (1.0)	282 (1.2)	298 (1.4)	307 (1.7)
Hawaii	260 (0.8)	212 (1.3)	223 (1.2)	241 (1.7)	261 (1.0)	281 (1.8)	297 (0.8)	307 (1.6)
Idaho	274 (0.6)	234 (1.4)	244 (0.9)	259 (0.7)	275 (0.9)	291 (0.9)	304 (0.7)	311 (1.0)
Indiana	271 (0.9)	227 (0.9)	237 (1.2)	254 (1.1)	271 (1.7)	289 (0.9)	304 (1.5)	313 (1.5)
Iowa	282 (0.9)	240 (2.3)	251 (1.1)	266 (1.3)	284 (1.1)	300 (0.9)	312 (0.8)	320 (1.5)
Kentucky	266 (0.9)	220 (1.7)	230 (1.7)	248 (1.4)	267 (0.8)	284 (1.5)	299 (1.5)	308 (0.9)
Louisiana	258 (1.4)	215 (1.5)	224 (2.1)	241 (1.6)	258 (1.3)	275 (2.0)	289 (1.8)	298 (1.3)
Maine	275 (1.0)	232 (3.7)	242 (1.6)	259 (1.1)	276 (1.2)	293 (0.9)	308 (1.2)	316 (1.6)
Maryland	264 (1.1)	212 (3.2)	223 (1.6)	243 (1.2)	266 (2.2)	287 (1.5)	303 (1.8)	312 (1.1)
Massachusetts	275 (0.9)	230 (2.1)	240 (1.2)	257 (1.4)	276 (1.1)	294 (0.9)	308 (1.8)	317 (2.1)
Michigan	268 (1.2)	220 (2.4)	231 (2.0)	250 (1.8)	269 (1.3)	288 (1.5)	303 (1.7)	311 (1.9)
Minnesota	284 (0.8)	243 (1.7)	252 (0.8)	267 (1.0)	285 (1.0)	301 (0.9)	314 (1.0)	322 (1.6)
Mississippi	259 (1.0)	216 (1.7)	225 (1.2)	241 (1.2)	258 (1.1)	276 (0.9)	294 (2.3)	303 (2.0)
Missouri	271 (1.1)	226 (2.3)	237 (2.3)	254 (1.4)	272 (1.2)	289 (1.2)	303 (1.4)	312 (1.2)
Nebraska	277 (1.0)	228 (2.4)	241 (1.6)	260 (1.2)	279 (0.8)	297 (1.2)	311 (1.1)	319 (1.9)
New Hampshire	277 (0.9)	236 (1.6)	245 (1.3)	261 (0.7)	277 (1.0)	294 (0.9)	308 (2.0)	316 (1.1)
New Jersey	274 (1.3)	226 (3.3)	237 (2.0)	255 (1.4)	275 (1.3)	294 (1.3)	309 (1.4)	319 (1.7)
New Mexico	265 (1.0)	223 (1.5)	233 (2.6)	249 (1.6)	265 (1.1)	282 (1.2)	297 (1.2)	306 (1.3)
New York	266 (1.8)	209 (6.3)	224 (3.3)	247 (2.4)	269 (1.7)	288 (1.5)	304 (1.8)	314 (1.1)
North Carolina	263 (1.0)	215 (2.1)	226 (1.6)	244 (0.9)	263 (1.2)	282 (1.3)	299 (2.4)	309 (1.6)
North Dakota	283 (1.0)	243 (1.9)	253 (1.7)	268 (1.5)	284 (1.3)	299 (1.4)	311 (1.1)	319 (1.2)
Ohio	269 (1.1)	223 (1.5)	233 (1.5)	252 (1.6)	271 (2.1)	289 (1.2)	304 (1.0)	312 (1.7)
Oklahoma	271 (0.9)	229 (2.0)	238 (1.5)	255 (1.5)	272 (1.4)	289 (0.9)	304 (1.2)	312 (1.7)
Pennsylvania	272 (1.3)	225 (2.4)	236 (1.7)	254 (1.7)	273 (1.4)	291 (1.8)	307 (1.5)	317 (1.9)
Rhode Island	269 (0.7)	223 (2.0)	233 (1.0)	251 (1.2)	270 (0.9)	288 (0.8)	303 (1.2)	312 (1.3)
South Carolina	264 (0.9)	219 (2.0)	229 (1.1)	245 (1.1)	264 (1.0)	283 (1.1)	301 (1.2)	310 (1.4)
Tennessee	264 (1.4)	219 (1.1)	229 (1.7)	245 (1.8)	264 (1.5)	283 (1.7)	299 (1.8)	308 (1.5)
Texas	267 (0.9)	222 (0.8)	231 (1.3)	249 (1.0)	268 (0.9)	286 (1.0)	303 (1.6)	313 (1.7)
Utah	274 (0.7)	231 (1.5)	241 (1.8)	258 (1.2)	275 (0.9)	292 (1.0)	306 (1.3)	313 (1.1)
Virginia	271 (1.1)	224 (1.8)	235 (0.6)	252 (1.2)	271 (1.4)	290 (1.7)	306 (1.4)	315 (2.9)
West Virginia	263 (0.8)	222 (2.3)	231 (1.6)	246 (1.3)	263 (1.3)	280 (0.8)	294 (1.0)	302 (1.0)
Wisconsin	278 (1.1)	232 (2.1)	243 (2.1)	261 (1.5)	279 (0.9)	296 (1.0)	310 (0.9)	318 (1.8)
Wyoming	276 (0.9)	236 (2.0)	245 (1.0)	261 (1.0)	277 (1.0)	293 (1.0)	306 (1.2)	314 (1.2)
TERRITORIES								
Guam	244 (1.1)	197 (2.2)	206 (1.9)	222 (1.4)	242 (1.8)	265 (1.7)	283 (1.3)	293 (2.2)
Virgin Islands	231 (1.5)	189 (2.6)	199 (2.6)	215 (2.1)	231 (1.6)	249 (1.7)	263 (2.3)	272 (2.3)

TABLE 3.13 | Average Estimation Proficiency and Achievement Levels

PUBLIC SCHOOLS	Grade 4 - 1992				
	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	206 (1.8)	1 (0.3)	28 (2.0)	90 (1.3)	10 (1.3)
Northeast	205 (6.8)!	0 (0.0)	29 (6.3)	86 (4.6)	14 (4.6)
Southeast	195 (3.9)	0 (0.4)	18 (3.5)	84 (3.5)	16 (3.5)
Central	212 (4.3)	1 (0.0)	35 (4.8)	92 (3.7)	8 (3.7)
West	213 (3.5)	1 (0.7)	33 (4.6)	95 (2.2)	5 (2.2)
STATES					
Alabama	198 (1.9)	0 (0.2)	20 (1.8)	86 (1.5)	14 (1.5)
Arizona	205 (1.4)	1 (0.2)	25 (1.5)	91 (1.1)	9 (1.1)
Arkansas	197 (1.6)	0 (0.2)	19 (1.2)	85 (1.5)	15 (1.5)
California	202 (1.8)	0 (0.2)	22 (1.9)	90 (1.1)	10 (1.1)
Colorado	212 (1.2)	1 (0.2)	32 (1.6)	94 (0.6)	6 (0.6)
Connecticut	217 (1.4)	1 (0.3)	39 (1.7)	94 (0.9)	6 (0.9)
Delaware	203 (1.5)	1 (0.3)	25 (1.5)	88 (1.0)	12 (1.0)
Dist. Columbia	171 (1.0)	0 (0.2)	7 (0.6)	62 (1.0)	38 (1.0)
Florida	200 (1.9)	1 (0.4)	22 (1.6)	87 (1.5)	13 (1.5)
Georgia	199 (1.5)	0 (0.2)	22 (1.5)	86 (1.1)	14 (1.1)
Hawaii	199 (1.7)	0 (0.1)	19 (1.9)	89 (1.3)	11 (1.3)
Idaho	211 (1.2)	0 (0.2)	30 (1.7)	95 (0.7)	5 (0.7)
Indiana	210 (1.6)	1 (0.2)	29 (1.7)	94 (1.0)	6 (1.0)
Iowa	221 (1.4)	2 (0.4)	42 (1.5)	96 (0.5)	4 (0.5)
Kentucky	205 (1.3)	1 (0.3)	24 (1.8)	92 (1.2)	8 (1.2)
Louisiana	188 (1.7)	0 (0.1)	13 (1.1)	80 (1.8)	20 (1.8)
Maine	220 (1.5)	1 (0.3)	39 (2.2)	97 (0.6)	3 (0.6)
Maryland	200 (1.5)	1 (0.2)	25 (1.4)	84 (1.4)	16 (1.4)
Massachusetts	217 (1.4)	1 (0.5)	39 (1.7)	94 (0.8)	6 (0.8)
Michigan	209 (2.2)	1 (0.4)	32 (2.1)	90 (1.6)	10 (1.6)
Minnesota	223 (1.4)	2 (0.4)	46 (2.0)	97 (0.5)	3 (0.5)
Mississippi	188 (1.6)	0 (0.1)	12 (1.0)	80 (1.6)	20 (1.6)
Missouri	211 (1.7)	1 (0.3)	31 (1.9)	93 (0.9)	7 (0.9)
Nebraska	216 (1.5)	1 (0.4)	36 (2.0)	95 (0.8)	5 (0.8)
New Hampshire	222 (1.5)	1 (0.3)	41 (2.1)	97 (0.6)	3 (0.6)
New Jersey	213 (1.9)	1 (0.4)	36 (2.0)	92 (1.3)	8 (1.3)
New Mexico	203 (1.8)	0 (0.2)	21 (2.1)	92 (1.1)	8 (1.1)
New York	204 (1.8)	1 (0.3)	27 (1.7)	88 (1.5)	12 (1.5)
North Carolina	198 (1.4)	1 (0.3)	21 (1.3)	85 (1.0)	15 (1.0)
North Dakota	222 (1.3)	1 (0.3)	42 (1.9)	98 (0.5)	2 (0.5)
Ohio	210 (1.4)	1 (0.3)	30 (1.8)	93 (0.8)	7 (0.8)
Oklahoma	211 (1.4)	1 (0.3)	29 (1.8)	95 (0.9)	5 (0.9)
Pennsylvania	212 (1.6)	1 (0.3)	35 (1.6)	92 (1.1)	8 (1.1)
Rhode Island	206 (1.8)	0 (0.2)	25 (1.6)	91 (1.2)	9 (1.2)
South Carolina	195 (1.5)	0 (0.1)	20 (1.6)	84 (1.1)	16 (1.1)
Tennessee	200 (1.5)	0 (0.1)	20 (1.5)	90 (1.2)	10 (1.2)
Texas	199 (1.7)	1 (0.2)	22 (1.8)	86 (1.1)	14 (1.1)
Utah	213 (1.0)	1 (0.2)	32 (1.2)	95 (0.7)	5 (0.7)
Virginia	206 (1.5)	2 (0.4)	28 (1.7)	89 (1.0)	11 (1.0)
West Virginia	204 (1.4)	0 (0.2)	22 (1.5)	92 (1.1)	8 (1.1)
Wisconsin	219 (1.7)	1 (0.4)	40 (2.0)	96 (0.7)	4 (0.7)
Wyoming	216 (1.1)	0 (0.2)	34 (1.3)	97 (0.6)	3 (0.6)
TERRITORY					
Guam	173 (0.8)	0 (0.1)	5 (0.6)	67 (1.4)	33 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 3.13 | Average Estimation Proficiency and Achievement Levels (continued)

PUBLIC SCHOOLS	Grade 8 - 1992				
	Average Proficiency	Percentage of Students At or Above Advanced	Percentage of Students At or Above Proficient	Percentage of Students At or Above Basic	Percentage of Students Below Basic
NATION	269 (1.5)	1 (0.4)	19 (2.1)	66 (2.2)	34 (2.2)
Northeast	269 (5.1)	2 (1.3)	24 (5.7)	63 (6.3)	37 (6.3)
Southeast	264 (2.6)	1 (1.0)	12 (2.8)	60 (4.5)	40 (4.5)
Central	274 (2.6)	1 (1.0)	21 (4.7)	74 (4.0)	26 (4.0)
West	270 (2.0)	1 (0.7)	18 (2.3)	67 (3.2)	33 (3.2)
STATES					
Alabama	260 (1.1)	0 (0.2)	9 (1.0)	52 (1.9)	48 (1.9)
Arizona	269 (1.1)	1 (0.3)	15 (0.9)	66 (2.1)	34 (2.1)
Arkansas	263 (1.3)	1 (0.2)	13 (1.0)	58 (1.9)	42 (1.9)
California	263 (1.4)	1 (0.4)	15 (1.3)	58 (2.0)	42 (2.0)
Colorado	273 (0.9)	1 (0.2)	19 (1.3)	73 (1.4)	27 (1.4)
Connecticut	275 (1.1)	2 (0.5)	26 (1.3)	72 (1.5)	28 (1.5)
Delaware	264 (0.9)	1 (0.4)	14 (0.9)	59 (1.3)	41 (1.3)
Dist. Columbia	241 (0.8)	0 (0.2)	3 (0.3)	27 (1.2)	73 (1.2)
Florida	264 (1.1)	1 (0.3)	14 (1.2)	59 (1.8)	41 (1.8)
Georgia	263 (0.9)	1 (0.3)	12 (1.1)	58 (1.8)	42 (1.8)
Hawaii	260 (0.8)	1 (0.2)	12 (0.8)	54 (1.3)	46 (1.3)
Idaho	274 (0.6)	1 (0.2)	19 (1.0)	76 (0.9)	24 (0.9)
Indiana	271 (0.9)	1 (0.3)	18 (1.2)	70 (1.8)	30 (1.8)
Iowa	282 (0.9)	2 (0.6)	32 (1.5)	84 (1.0)	16 (1.0)
Kentucky	266 (0.9)	1 (0.2)	13 (1.3)	63 (1.5)	37 (1.5)
Louisiana	258 (1.4)	0 (0.1)	7 (0.9)	50 (2.6)	50 (2.6)
Maine	275 (1.0)	1 (0.4)	22 (1.4)	76 (1.5)	24 (1.5)
Maryland	264 (1.1)	1 (0.3)	16 (1.3)	59 (1.5)	41 (1.5)
Massachusetts	275 (0.9)	2 (0.5)	24 (1.4)	74 (1.3)	26 (1.3)
Michigan	268 (1.2)	1 (0.3)	17 (1.4)	65 (1.6)	35 (1.6)
Minnesota	284 (0.8)	3 (0.4)	34 (1.5)	85 (1.1)	15 (1.1)
Mississippi	259 (1.0)	0 (0.1)	9 (1.2)	51 (1.7)	49 (1.7)
Missouri	271 (1.1)	1 (0.3)	18 (1.2)	70 (1.6)	30 (1.6)
Nebraska	277 (1.0)	2 (0.4)	27 (1.4)	78 (1.4)	22 (1.4)
New Hampshire	277 (0.9)	1 (0.4)	23 (1.2)	79 (1.2)	21 (1.2)
New Jersey	274 (1.3)	2 (0.5)	23 (1.5)	72 (1.8)	28 (1.8)
New Mexico	265 (1.0)	0 (0.2)	11 (1.0)	61 (1.7)	39 (1.7)
New York	266 (1.8)	1 (0.4)	17 (1.3)	63 (2.0)	37 (2.0)
North Carolina	263 (1.0)	1 (0.2)	13 (1.1)	56 (1.6)	44 (1.6)
North Dakota	283 (1.0)	2 (0.5)	32 (2.0)	86 (1.3)	14 (1.3)
Ohio	269 (1.1)	1 (0.2)	18 (1.5)	68 (1.9)	32 (1.9)
Oklahoma	271 (0.9)	1 (0.3)	19 (1.3)	71 (1.8)	29 (1.8)
Pennsylvania	272 (1.3)	2 (0.4)	21 (1.6)	70 (1.7)	30 (1.7)
Rhode Island	269 (0.7)	1 (0.3)	17 (0.9)	67 (1.4)	33 (1.4)
South Carolina	264 (0.9)	1 (0.3)	14 (1.1)	58 (1.5)	42 (1.5)
Tennessee	264 (1.4)	1 (0.3)	13 (1.4)	59 (2.0)	41 (2.0)
Texas	267 (0.9)	1 (0.3)	16 (1.2)	63 (1.6)	37 (1.6)
Utah	274 (0.7)	1 (0.2)	21 (1.1)	75 (1.4)	25 (1.4)
Virginia	271 (1.1)	2 (0.6)	19 (1.3)	68 (1.6)	32 (1.6)
West Virginia	263 (0.8)	0 (0.1)	9 (0.7)	58 (1.5)	42 (1.5)
Wisconsin	278 (1.1)	2 (0.7)	26 (1.3)	78 (1.6)	22 (1.6)
Wyoming	276 (0.9)	1 (0.3)	22 (1.3)	78 (1.5)	22 (1.5)
TERRITORIES					
Guam	244 (1.1)	0 (0.1)	4 (0.7)	32 (1.5)	68 (1.5)
Virgin Islands	231 (1.5)	0 (0.0)	1 (0.2)	15 (1.7)	85 (1.7)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Descriptions of mathematics proficiency at the three achievement levels are found in Chapter One.

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CHAPTER FOUR

Mathematics Achievement by Content Areas for Population Subgroups for the Nation at Grades 4, 8, and 12 and the States at Grades 4 and 8

Overview

To further explore indicators of mathematics achievement, Chapter Four provides the data for mathematics content areas for various demographic subgroups. The same demographic characteristics that were presented for the overall proficiency scale in Chapter Two are reported herein for the six content areas. The population subgroups include classifications by race/ethnicity, gender, type of community, and highest level of parents' education.

Average Achievement in Mathematics Content Areas by Race/Ethnicity

TABLE 4.1 Average Proficiency in Mathematics Content Areas by Race/Ethnicity, Grades 4, 8, and 12

	Assessment Years	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
Grade 4							
White	1992	224 (1.0)>	233 (1.0)>	229 (0.8)>	228 (1.1)	225 (1.0)>	219 (1.8)>
	1990	218 (1.3)	227 (1.3)	220 (1.1)	--	221 (1.1)	208 (1.9)
Black	1992	189 (1.4)	194 (1.8)	196 (1.4)>	192 (1.6)	190 (1.6)	173 (3.5)
	1990	187 (1.9)	190 (2.3)	191 (1.6)	--	191 (1.8)	174 (3.2)
Hispanic	1992	198 (1.8)	204 (1.7)	206 (1.3)>	203 (1.4)	198 (1.7)	191 (3.1)
	1990	195 (2.2)	204 (2.3)	199 (1.9)	--	197 (2.2)	186 (2.8)
Asian/Pac. Islander	1992	230 (2.6)	235 (3.6)	233 (2.6)	228 (3.1)	232 (3.2)	194 (6.5)
	1990	226 (3.6)	233 (4.8)	225 (4.6)	--	228 (3.4)	210 (6.4)
American Indian	1992	205 (3.4)	215 (3.6)	214 (3.4)	210 (3.3)	208 (3.4)	198 (5.5)
	1990	204 (4.0)	213 (4.8)	210 (4.0)	--	208 (3.8)	189 (7.7)
Grade 8							
White	1992	280 (0.9)>	277 (1.3)>	272 (1.1)>	279 (1.2)>	276 (1.2)>	278 (1.5)
	1990	274 (1.3)	268 (1.7)	267 (1.4)	273 (1.6)	269 (1.4)	275 (1.5)
Black	1992	244 (1.3)	226 (1.9)	234 (1.7)	235 (1.7)	238 (2.1)	248 (3.3)
	1990	246 (2.8)	228 (3.2)	236 (3.1)	233 (3.2)	239 (2.6)	251 (1.9)
Hispanic	1992	251 (1.5)	243 (1.8)	246 (1.2)	243 (1.5)	245 (1.4)	254 (2.4)
	1990	249 (2.7)	238 (3.3)	243 (2.5)	240 (3.3)	243 (2.9)	255 (1.9)
Asian/Pac. Islander	1992	292 (5.3)	289 (7.1)	281 (5.2)	287 (6.4)	290 (5.4)	281 (4.8)
	1990	283 (4.5)	275 (6.4)	275 (5.0)	281 (5.4)	279 (5.1)	279 (6.2)
American Indian	1992	258 (2.7)	253 (4.1)	252 (3.4)	253 (2.9)	253 (3.0)	266 (9.4)
	1990	247(10.1)	246(10.2)	247 (8.5)	244(11.5)	241 (8.3)	247 (6.6)
Grade 12							
White	1992	304 (0.9)>	305 (1.0)>	306 (1.1)>	305 (1.0)	305 (1.0)>	300 (1.4)
	1990	299 (1.2)	299 (1.4)	302 (1.5)	302 (1.3)	302 (1.3)	298 (1.3)
Black	1992	276 (1.5)>	268 (1.9)>	276 (1.9)>	273 (1.9)>	277 (2.1)	275 (1.5)
	1990	271 (1.8)	262 (2.2)	267 (2.1)	266 (2.3)	272 (2.0)	270 (2.5)
Hispanic	1992	282 (1.8)>	281 (1.8)	286 (2.5)>	281 (2.2)	283 (1.8)	279 (3.2)
	1990	275 (2.9)	276 (3.0)	276 (2.9)	275 (3.7)	278 (2.8)	277 (4.3)
Asian/Pac. Islander	1992	310 (3.9)	317 (4.1)	321 (3.6)	305 (4.5)	321 (3.4)	302 (3.8)
	1990	309 (4.8)	314 (6.1)	313 (5.8)	303 (5.5)	316 (5.0)	299 (5.9)
American Indian	1992	284 (9.6)	282(11.2)	280(11.3)	278 (7.8)	280 (7.2)	298 (8.9)
	1990	288 (9.2)	287 (9.6)	287(11.7)	288(11.2)	288(11.1)	276 (9.9)

>The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. <The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent of 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

TABLE 4.2 | Average Proficiency in Mathematics Content Area Numbers and Operations by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	223 (1.1)	188 (1.4)	196 (2.0)	230 (2.8)	204 (3.8)
Northeast	230 (2.5)	191 (3.7)	196 (3.8)	*** (***)	*** (***)
Southeast	215 (2.3)	187 (2.1)	195 (3.8)	*** (***)	*** (***)
Central	225 (1.9)	191 (4.9)	193 (3.8)	*** (***)	*** (***)
West	222 (2.0)	185 (2.8)	196 (2.6)	230 (3.5)	*** (***)
STATES					
Alabama	215 (1.8)	183 (1.4)	188 (4.7)	*** (***)	*** (***)
Arizona	222 (1.1)	196 (4.5)	198 (1.6)	*** (***)	185 (4.0)
Arkansas	213 (1.1)	184 (2.3)	188 (3.2)	*** (***)	206 (3.7)
California	217 (2.1)	181 (3.3)	187 (1.8)	220 (2.9)	203 (6.9)
Colorado	222 (1.2)	198 (4.0)	200 (1.9)	221 (6.3)	209 (4.8)
Connecticut	232 (1.3)	188 (2.7)	202 (2.9)	*** (***)	*** (***)
Delaware	224 (1.0)	193 (2.3)	193 (3.4)	*** (***)	*** (***)
Dist. Columbia	238 (5.0)	187 (0.8)	176 (2.6)	*** (***)	*** (***)
Florida	220 (1.5)	185 (2.1)	200 (2.8)	*** (***)	*** (***)
Georgia	225 (1.3)	191 (1.7)	192 (3.6)	*** (***)	*** (***)
Hawaii	216 (2.0)	195 (3.7)	194 (2.7)	212 (1.8)	*** (***)
Idaho	219 (1.4)	*** (***)	197 (3.5)	*** (***)	206 (3.2)
Indiana	220 (1.2)	189 (2.7)	204 (2.3)	*** (***)	*** (***)
Iowa	229 (1.2)	187 (4.3)!	215 (3.5)	*** (***)	*** (***)
Kentucky	214 (1.2)	199 (2.7)	191 (4.2)	*** (***)	*** (***)
Louisiana	214 (1.7)	182 (1.8)	194 (4.6)	*** (***)	*** (***)
Maine	228 (1.4)	*** (***)	213 (5.0)	*** (***)	*** (***)
Maryland	226 (1.3)	191 (2.2)	199 (3.9)	233 (4.3)	*** (***)
Massachusetts	229 (1.1)	190 (3.6)	202 (2.9)	231 (8.6)	*** (***)
Michigan	223 (1.8)	181 (4.2)	197 (3.5)	*** (***)	206 (4.4)
Minnesota	228 (1.2)	191 (3.6)	203 (2.9)	*** (***)	*** (***)
Mississippi	215 (1.6)	187 (1.8)	181 (3.1)	*** (***)	*** (***)
Missouri	223 (1.4)	191 (2.7)	202 (4.3)	*** (***)	*** (***)
Nebraska	225 (1.5)	187 (3.6)	207 (3.5)	*** (***)	*** (***)
New Hampshire	227 (1.3)	*** (***)	209 (3.1)	*** (***)	*** (***)
New Jersey	235 (1.5)	197 (3.0)	203 (2.7)	243 (3.6)	*** (***)
New Mexico	220 (1.9)	197 (4.8)	196 (1.9)	*** (***)	200 (3.3)!
New York	226 (1.5)	195 (2.9)	195 (2.8)	235 (5.3)!	*** (***)
North Carolina	219 (1.2)	188 (1.8)	191 (4.8)	*** (***)	199 (4.1)!
North Dakota	226 (0.8)	*** (***)	208 (4.3)	*** (***)	206 (4.0)!
Ohio	218 (1.4)	190 (3.6)	202 (3.9)	*** (***)	213 (4.5)
Oklahoma	221 (1.2)	199 (2.8)	205 (3.3)	*** (***)	207 (2.4)
Pennsylvania	228 (1.4)	190 (3.2)	200 (2.9)	*** (***)	*** (***)
Rhode Island	219 (1.5)	188 (3.6)	185 (3.0)	191 (5.2)	*** (***)
South Carolina	222 (1.4)	190 (1.3)	193 (3.0)	*** (***)	*** (***)
Tennessee	215 (1.3)	187 (2.0)	188 (5.3)	*** (***)	*** (***)
Texas	225 (1.8)	194 (2.5)	204 (2.1)	231 (5.4)	*** (***)
Utah	222 (1.3)	*** (***)	204 (2.2)	*** (***)	*** (***)
Virginia	225 (1.7)	193 (2.1)	206 (3.8)	234 (5.4)	*** (***)
West Virginia	211 (1.2)	198 (4.7)	199 (3.5)	*** (***)	*** (***)
Wisconsin	231 (1.1)	190 (3.7)	207 (3.8)	*** (***)	200 (9.2)!
Wyoming	223 (1.1)	*** (***)	211 (2.1)	*** (***)	207 (4.7)!
TERRITORY					
Guam	201 (2.7)	174 (6.1)	174 (2.4)	190 (1.4)	*** (***)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution: the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 4.2 | Average Proficiency in Mathematics Content Area Numbers and Operations by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					Grade 8 - 1990				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	279 (1.0)	243 (1.3)	249 (1.6)	290 (6.3)	258 (2.8)	273 (1.4)	245 (2.9)	248 (2.7)	283 (5.1)!	246 (9.7)!
Northeast	281 (3.0)	246 (3.8)	246 (3.9)!	*** (***)	*** (***)	276 (2.3)	252 (6.9)!	*** (***)	*** (***)	*** (***)
Southeast	272 (1.2)	242 (1.5)	245 (2.7)!	*** (***)	*** (***)	269 (2.9)	243 (4.6)	*** (***)	*** (***)	*** (***)
Central	283 (1.7)	246 (4.4)	251 (4.7)	*** (***)	*** (***)	276 (2.3)	241 (5.0)!	*** (***)	*** (***)	*** (***)
West	280 (2.0)	241 (3.5)	251 (1.9)	290(10.5)	*** (***)	271 (3.1)	250 (5.6)!	248 (3.3)	*** (***)	*** (***)
STATES										
Alabama	269 (1.4)	240 (1.7)	230 (4.5)	*** (***)	*** (***)	268 (1.1)	243 (1.5)	233 (3.8)	*** (***)	*** (***)
Arizona	278 (1.1)	256 (3.9)	252 (2.5)	*** (***)	254 (3.0) >	276 (1.1)	251 (3.6)	248 (2.0)	*** (***)	238 (3.2)!
Arkansas	270 (1.2)	238 (2.1)	235 (3.8)	*** (***)	*** (***)	270 (0.9)	241 (1.2)	238 (3.8)	*** (***)	*** (***)
California	279 (1.9)	239 (4.1)	244 (2.2)	282 (3.2)	*** (***)	274 (1.5)	237 (3.9)	240 (1.6)	275 (2.9)	*** (***)
Colorado	279 (1.1)	248 (3.6)	255 (2.0)	*** (***)	*** (***)	276 (1.0)	242 (3.8)!	250 (1.8)	*** (***)	*** (***)
Connecticut	286 (1.0) »	248 (3.0)	249 (2.5)	292 (7.6)	*** (***)	281 (0.9)	248 (2.2)	242 (2.7)	*** (***)	*** (***)
Delaware	276 (1.1)	248 (2.0)	244 (3.1)	*** (***)	*** (***)	273 (1.1)	248 (1.9)	247 (4.9)	*** (***)	*** (***)
Dist. Columbia	*** (***)	242 (0.8) >	234 (3.6)	*** (***)	*** (***)	*** (***)	238 (0.9)	226 (2.7)	*** (***)	*** (***)
Florida	276 (1.3) »	243 (2.1)	250 (2.6)	*** (***)	*** (***)	269 (1.4)	240 (1.8)	251 (2.5)	279 (5.1)	*** (***)
Georgia	274 (1.3)	250 (1.3)	239 (4.9)	*** (***)	*** (***)	274 (1.6)	248 (1.5)	237 (3.4)	*** (***)	*** (***)
Hawaii	268 (1.8)	*** (***)	244 (2.8)	263 (1.1) »	*** (***)	267 (1.9)	*** (***)	237 (2.3)	258 (0.9)	*** (***)
Idaho	279 (0.9)	*** (***)	255 (2.5)	*** (***)	263 (3.9)	277 (0.8)	*** (***)	256 (2.9)	*** (***)	256 (5.9)
Indiana	276 (1.4)	248 (2.6)	251 (4.7)	*** (***)	*** (***)	274 (1.1)	248 (2.9)	252 (3.3)	*** (***)	*** (***)
Iowa	286 (1.0)	*** (***)	264 (3.1)	*** (***)	*** (***)	284 (1.1)	*** (***)	262 (4.2)	*** (***)	*** (***)
Kentucky	269 (1.1) >	248 (2.8)	236 (4.5)	*** (***)	*** (***)	264 (1.3)	246 (2.7)	236 (3.4)	*** (***)	*** (***)
Louisiana	269 (1.6)	242 (2.2)	235 (4.2)	*** (***)	*** (***)	264 (1.4)	241 (1.4)	232 (3.7)	*** (***)	*** (***)
Maine	281 (1.2)	*** (***)	*** (***)	*** (***)	264 (4.9)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	281 (1.5)	246 (2.1)	245 (3.4)	289 (5.3)	*** (***)	275 (1.6)	245 (2.0)	242 (3.1)	294 (4.2)	*** (***)
Massachusetts	281 (1.0)	249 (4.8)	245 (3.1)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	279 (1.4)	240 (1.6)	255 (3.9)	*** (***)	*** (***)	275 (1.0)	238 (1.7)	253 (3.4)	*** (***)	*** (***)
Minnesota	284 (1.1)	*** (***)	251 (4.1)	*** (***)	*** (***)	281 (1.0)	243 (4.7)!	244 (5.1)	276 (5.8)	*** (***)
Mississippi	270 (1.4)	243 (1.4)	237 (3.6)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	277 (1.2)	245 (2.6)	253 (4.3)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	283 (1.1)	242 (5.3)	256 (3.2)	*** (***)	*** (***)	282 (1.1)	245 (5.8)	259 (4.7)	*** (***)	*** (***)
New Hampshire	281 (0.9) >	*** (***)	261 (5.4)	*** (***)	*** (***)	275 (1.0)	*** (***)	257 (4.8)	*** (***)	*** (***)
New Jersey	286 (1.4)	251 (3.0)	254 (3.4)	300 (4.3)	*** (***)	283 (1.2)	249 (2.3)	250 (2.1)	300 (4.7)	*** (***)
New Mexico	276 (1.5)	*** (***)	253 (1.2)	*** (***)	251 (3.0) >	274 (1.3)	*** (***)	250 (1.4)	*** (***)	240 (1.9)
New York	283 (1.2) »	240 (4.6)	249 (4.4)	287 (6.9)	*** (***)	276 (1.0)	241 (3.0)	241 (2.6)	282 (6.4)!	*** (***)
North Carolina	269 (1.2)	243 (1.9)	238 (5.2)	*** (***)	*** (***)	265 (1.4)	242 (1.6)	224 (3.2)	*** (***)	241 (3.6)!
North Dakota	287 (1.2)	*** (***)	*** (***)	*** (***)	263 (3.6)! >	289 (1.3)	*** (***)	255 (7.1)	*** (***)	248 (2.5)!
Ohio	278 (1.5)	240 (2.3)	254 (4.8)	*** (***)	*** (***)	273 (1.1)	240 (2.3)	244 (4.3)	*** (***)	*** (***)
Oklahoma	276 (1.3)	247 (3.2)	253 (3.4)	*** (***)	264 (3.3)	273 (1.3)	243 (2.4)	252 (4.4)	*** (***)	261 (2.7)
Pennsylvania	279 (1.3)	243 (4.1)	249 (3.7)!	*** (***)	*** (***)	275 (1.3)	247 (3.8)	238 (4.7)	*** (***)	*** (***)
Rhode Island	274 (0.8) »	245 (3.1)	238 (3.4)	268 (4.1)	*** (***)	270 (0.8)	234 (3.2)	236 (2.3)	*** (***)	*** (***)
South Carolina	277 (1.1)	249 (1.1)	238 (3.4)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	271 (1.3)	245 (2.6)	231 (4.9)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	280 (1.6)	247 (2.1)	252 (1.4)	300 (5.1)	*** (***)	276 (1.3)	245 (2.1)	249 (1.8)	*** (***)	*** (***)
Utah	278 (0.8)	*** (***)	256 (2.6)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	278 (1.1)	253 (1.6)	259 (4.8)	284 (4.7)	*** (***)	275 (1.6)	249 (1.4)	247 (3.9)	298 (4.0)	*** (***)
West Virginia	264 (1.0)	248 (4.0)	232 (5.3)	*** (***)	*** (***)	262 (1.0)	242 (4.3)	237 (4.2)	*** (***)	*** (***)
Wisconsin	284 (1.2)	252 (6.5)	252 (3.6)	*** (***)	265 (4.2)!	282 (1.2)	246 (4.5)	254 (4.8)	*** (***)	*** (***)
Wyoming	279 (0.8)	*** (***)	259 (2.1)	*** (***)	252 (3.3)!	278 (0.7)	*** (***)	258 (2.5)	*** (***)	261 (3.7)
TERRITORIES										
Guam	268 (5.1)	*** (***)	223 (3.7)	241 (1.6)	*** (***)	264 (3.5)	*** (***)	219 (1.6)	244 (0.8)	*** (***)
Virgin Islands	*** (***)	234 (1.3)	223 (1.9)	*** (***)	*** (***)	*** (***)	232 (1.1)	217 (1.6)	*** (***)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 4.3 | Average Proficiency in Mathematics Content Area Measurement by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	232 (1.1)	193 (1.7)	202 (1.6)	235 (3.7)	214 (3.8)
Northeast	237 (2.6)	196 (3.0)	204 (3.5)	*** (***)	*** (***)
Southeast	225 (2.4)	193 (2.6)	203 (3.5)	*** (***)	*** (***)
Central	235 (2.2)	194 (4.7)	205 (4.0)	*** (***)	*** (***)
West	230 (1.9)	189 (3.9)	201 (2.0)	235 (4.3)	*** (***)
STATES					
Alabama	225 (1.8)	192 (1.4)	198 (6.6)	*** (***)	*** (***)
Arizona	230 (1.4)	198 (4.2)	205 (2.2)	*** (***)	196 (4.0)
Arkansas	223 (1.7)	192 (3.0)	201 (3.7)	*** (***)	217 (4.4)
California	225 (2.3)	179 (4.3)	191 (2.3)	224 (3.3)	210 (7.7)
Colorado	233 (1.3)	196 (3.6)	211 (2.0)	223 (6.0)	219 (5.5)
Connecticut	240 (1.0)	195 (3.8)	208 (2.9)	*** (***)	*** (***)
Delaware	231 (1.2)	196 (1.5)	201 (2.7)	*** (***)	*** (***)
Dist. Columbia	245 (6.9)	190 (1.1)	184 (2.6)	*** (***)	*** (***)
Florida	230 (1.5)	194 (2.9)	211 (3.0)	*** (***)	*** (***)
Georgia	233 (1.4)	199 (1.9)	199 (3.1)	*** (***)	*** (***)
Hawaii	222 (2.4)	202 (4.7)	200 (3.4)	218 (1.9)	*** (***)
Idaho	230 (1.0)	*** (***)	211 (2.9)	*** (***)	219 (4.1)
Indiana	231 (1.2)	200 (3.7)	210 (2.5)	*** (***)	*** (***)
Iowa	236 (1.3)	191 (5.1)!	224 (3.8)	*** (***)	*** (***)
Kentucky	221 (1.1)	200 (3.9)	203 (4.4)	*** (***)	*** (***)
Louisiana	224 (1.7)	190 (1.8)	208 (5.2)	*** (***)	*** (***)
Maine	237 (1.4)	*** (***)	224 (5.4)	*** (***)	*** (***)
Maryland	232 (1.6)	194 (2.4)	210 (4.7)	240 (4.3)	*** (***)
Massachusetts	236 (1.3)	188 (3.6)	207 (3.3)	226 (10.5)	*** (***)
Michigan	234 (1.6)	185 (5.0)	217 (2.8)	*** (***)	216 (4.8)
Minnesota	237 (1.2)	192 (5.2)	214 (4.6)	*** (***)	*** (***)
Mississippi	224 (1.6)	193 (1.7)	188 (4.4)	*** (***)	*** (***)
Missouri	233 (1.5)	194 (3.0)	211 (5.3)	*** (***)	*** (***)
Nebraska	235 (1.4)	186 (3.6)	212 (5.1)	*** (***)	*** (***)
New Hampshire	235 (1.4)	*** (***)	223 (3.7)	*** (***)	*** (***)
New Jersey	242 (1.5)	198 (3.1)	205 (3.5)	241 (3.8)	*** (***)
New Mexico	229 (1.6)	205 (4.5)	206 (1.7)	*** (***)	213 (3.7)!
New York	232 (2.1)	199 (3.4)	200 (2.3)	236 (4.9)!	*** (***)
North Carolina	227 (1.2)	194 (1.8)	208 (4.8)	*** (***)	207 (4.7)!
North Dakota	236 (1.3)	*** (***)	221 (4.7)	*** (***)	220 (3.6)!
Ohio	227 (1.4)	198 (3.8)	213 (4.1)	*** (***)	222 (4.8)
Oklahoma	229 (1.2)	200 (3.8)	213 (3.6)	*** (***)	217 (2.6)
Pennsylvania	236 (1.4)	194 (2.9)	207 (2.8)	*** (***)	*** (***)
Rhode Island	226 (1.6)	191 (3.8)	192 (3.5)	183 (4.8)	*** (***)
South Carolina	231 (1.6)	200 (1.4)	209 (3.4)	*** (***)	*** (***)
Tennessee	221 (1.2)	193 (1.9)	197 (5.1)	*** (***)	*** (***)
Texas	233 (2.0)	200 (2.3)	210 (2.6)	236 (5.0)	*** (***)
Utah	231 (1.1)	*** (***)	217 (2.9)	*** (***)	*** (***)
Virginia	233 (1.6)	199 (1.8)	219 (4.0)	241 (4.4)	*** (***)
West Virginia	224 (1.2)	206 (4.9)	215 (3.4)	*** (***)	*** (***)
Wisconsin	239 (1.1)	197 (2.8)	220 (4.1)	*** (***)	211 (7.0)!
Wyoming	233 (1.1)	*** (***)	216 (2.6)	*** (***)	217 (4.7)!
TERRITORY					
Guam	207 (2.7)	184 (7.0)	181 (2.7)	192 (1.4)	*** (***)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 4.3 | Average Proficiency in Mathematics Content Area Measurement by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					Grade 8 - 1990				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	276 (1.5)	225 (1.9)	241 (1.9)	288 (8.5)	254 (4.3)	267 (1.8)	227 (3.3)	237 (3.2)	275 (7.0)!	245 (9.9)!
Northeast	279 (4.1)	229 (5.5)	235 (4.8)!	*** (***)	*** (***)	272 (3.6)	236 (8.0)!	*** (***)	*** (***)	*** (***)
Southeast	267 (1.6)	221 (2.5)	233 (5.3)!	*** (***)	*** (***)	260 (3.3)	225 (5.0)	*** (***)	*** (***)	*** (***)
Central	281 (2.5)	227 (4.6)	242 (5.5)	*** (***)	*** (***)	271 (3.2)	221 (6.3)!	*** (***)	*** (***)	*** (***)
West	278 (3.2)	225 (4.2)	244 (2.4)	288(14.0)	*** (***)	267 (4.3)	237 (7.7)!	238 (3.7)	*** (***)	*** (***)
STATES										
Alabama	261 (2.1)	218 (3.0)	204 (7.6)	*** (***)	*** (***)	259 (1.4)	226 (1.8)	216 (4.2)	*** (***)	*** (***)
Arizona	277 (2.1) >	244 (5.4)	241 (4.2)	*** (***)	250 (5.4)	269 (1.5)	240 (5.1)	239 (2.3)	*** (***)	237 (3.2)!
Arkansas	262 (1.2)	221 (2.7)	229 (6.7)	*** (***)	*** (***)	265 (1.4)	224 (1.8)	230 (6.7)	*** (***)	*** (***)
California	278 (2.1) >	224 (5.0)	236 (3.3)	276 (4.5)	*** (***)	269 (1.8)	219 (4.5)	232 (2.0)	265 (4.2)	*** (***)
Colorado	280 (1.6) >	238 (5.6)	252 (2.1)	*** (***)	*** (***)	273 (1.4)	228 (3.9)!	243 (2.5)	*** (***)	*** (***)
Connecticut	287 (1.5) »	238 (4.1)	236 (4.2)	283(11.4)	*** (***)	277 (1.3)	231 (3.2)	235 (4.8)	*** (***)	*** (***)
Delaware	271 (1.4)	229 (3.4)	236 (5.9)	*** (***)	*** (***)	267 (1.4)	237 (2.4)	239 (5.7)	*** (***)	*** (***)
Dist. Columbia	*** (***)	219 (1.7)	219 (4.8)	*** (***)	*** (***)	*** (***)	221 (1.3)	214 (4.6)	*** (***)	*** (***)
Florida	272 (1.9) >	224 (3.6)	237 (3.0)	*** (***)	*** (***)	263 (1.5)	225 (2.3)	242 (3.5)	266 (7.4)	*** (***)
Georgia	268 (2.2)	230 (2.7)	226 (7.7)	*** (***)	*** (***)	267 (1.8)	231 (1.8)	224 (4.0)	*** (***)	*** (***)
Hawaii	264 (2.1)	*** (***)	231 (3.6)	257 (1.5) >	*** (***)	261 (3.0)	*** (***)	232 (4.1)	250 (1.2)	*** (***)
Idaho	278 (1.4) >	*** (***)	253 (4.1)	*** (***)	255 (5.8)	272 (1.2)	*** (***)	247 (5.0)	*** (***)	246 (7.1)
Indiana	274 (1.9)	235 (3.8)	247 (7.7)	*** (***)	*** (***)	269 (2.1)	236 (3.8)	241 (4.8)	*** (***)	*** (***)
Iowa	289 (1.6) »	*** (***)	256 (5.8)	*** (***)	*** (***)	278 (1.6)	*** (***)	251 (5.2)	*** (***)	*** (***)
Kentucky	262 (1.3)	232 (3.8)	239 (6.0)	*** (***)	*** (***)	257 (1.4)	232 (3.4)	226 (5.5)	*** (***)	*** (***)
Louisiana	259 (2.1)	220 (2.4	219 (4.7)	*** (***)	*** (***)	256 (1.6)	221 (1.5)	225 (5.3)	*** (***)	*** (***
Maine	283 (1.5)	*** (***)	*** (***)	*** (***)	261 (5.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	279 (2.2) >	227 (2.2)	231 (7.5)	285 (7.3)	*** (***)	271 (1.6)	229 (2.6)	231 (4.0)	293 (4.6)	*** (***)
Massachusetts	277 (1.8)	230 (7.0)	231 (4.4)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	278 (2.1) >	222 (2.6)	248 (7.1)	*** (***)	*** (***)	269 (1.3)	222 (2.1)	233 (4.1)	*** (***)	*** (***)
Minnesota	288 (1.4) »	*** (***)	248 (5.8)	*** (***)	*** (***)	275 (1.2)	234 (5.8)!	226 (8.0)	258 (8.2)	*** (***)
Mississippi	257 (2.4)	216 (2.4)	216 (4.3)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	277 (1.7)	236 (4.2)	251 (6.8)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	284 (1.6)	225 (7.4)	248 (3.7)	*** (***)	*** (***)	278 (1.5)	224 (8.0)	243 (5.5)	*** (***)	*** (***)
New Hampshire	281 (1.7) >	*** (***)	258 (9.0)	*** (***)	*** (***)	273 (1.6)	*** (***)	259 (4.9)	*** (***)	*** (***)
New Jersey	282 (2.5)	230 (3.7)	243 (3.6)	303 (4.2)	*** (***)	279 (1.6)	235 (3.3)	238 (3.5)	295 (5.5)	*** (***)
New Mexico	273 (1.6)	*** (***)	245 (2.3)	*** (***)	248 (4.7)	271 (2.1)	*** (***)	242 (1.4)	*** (***)	237 (2.1)
New York	279 (1.5) >	222 (5.2)	231 (5.9)	278 (9.1)	*** (***)	270 (1.8)	223 (4.7)	231 (3.9)	273 (9.7)!	*** (***)
North Carolina	264 (1.4) >	229 (2.8)	241 (6.0) >	*** (***)	*** (***)	256 (1.7)	220 (1.5)	211 (4.3)	*** (***)	225 (6.9)!
North Dakota	287 (1.9)	*** (***)	*** (***)	*** (***)	258 (7.2)!	283 (1.3)	*** (***)	236(10.1)	*** (***)	236 (3.8)!
Ohio	274 (2.2) >	223 (4.0)	240 (7.6)	*** (***)	*** (***)	265 (1.3)	226 (2.7)	223 (5.1)	*** (***)	*** (***)
Oklahoma	272 (2.1)	226 (4.3)	247 (6.3)	*** (***)	259 (4.6)	264 (1.6)	227 (3.1)	240 (6.1)	*** (***)	250 (4.0)
Pennsylvania	277 (1.7)	232 (5.1)	248 (5.9)! >	*** (***)	*** (***)	271 (1.4)	233 (4.0)	219 (7.4)	*** (***)	*** (***)
Rhode Island	270 (1.2) »	228 (3.6)	225 (3.4)	264 (4.9)	*** (***)	263 (0.8)	220 (5.0)	226 (3.0)	*** (***)	*** (***
South Carolina	273 (1.9)	233 (2.0)	232 (4.0)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	263 (1.7)	223 (3.6)	218 (7.8)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	277 (2.3)	233 (3.0)	242 (1.7)	308 (7.1)	*** (***)	269 (1.7)	225 (3.0)	242 (2.5)	*** (***)	*** (***)
Utah	277 (1.4)	*** (***)	247 (3.7)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	275 (1.5)	233 (2.7)	253 (5.7)	276 (5.6)	*** (***)	268 (1.8)	234 (2.2)	242 (5.5)	289 (6.3)	*** (***)
West Virginia	258 (1.5)	238 (5.0)	226 (6.1)	*** (***)	*** (***)	254 (1.2)	231 (4.6)	227 (6.5)	*** (***)	*** (***)
Wisconsin	284 (1.8)	239 (8.2)	245 (7.4)	*** (***)	259 (9.6)!	279 (1.5)	224 (4.4)	249 (5.0)	*** (***)	*** (***)
Wyoming	281 (1.2) »	*** (***)	260 (2.9)	*** (***)	256 (4.8)!	273 (0.8)	*** (***)	250 (3.2)	*** (***)	250 (5.9)
TERRITORIES										
Guam	265 (6.7)	*** (***)	211 (4.2)	230 (1.7)	*** (***)	254 (3.5)	*** (***)	210 (3.8)	231 (1.4)	*** (***)
Virgin Islands	*** (***)	213 (2.0)	202 (3.1)	*** (***)	*** (***)	*** (***)	218 (2.1)	208 (2.8)	*** (***)	*** (***)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 4.4 | Average Proficiency in Mathematics Content Area Geometry by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	228 (0.9)	195 (1.5)	205 (1.4)	234 (2.8)	214 (3.9)
Northeast	232 (2.5)	199 (2.9)	204 (3.3)	*** (***)	*** (***)
Southeast	222 (1.9)	193 (2.2)	204 (3.8)	*** (***)	*** (***)
Central	229 (1.7)	196 (4.0)	202 (3.5)	*** (***)	*** (***)
West	229 (1.7)	194 (3.2)	207 (1.7)	234 (2.9)	*** (***)
STATES					
Alabama	218 (1.5)	193 (1.2)	196 (4.5)	*** (***)	*** (***)
Arizona	228 (1.0)	201 (3.6)	209 (1.6)	*** (***)	202 (3.4)
Arkansas	220 (1.4)	190 (2.1)	201 (3.3)	*** (***)	215 (5.1)
California	224 (1.9)	186 (4.6)	198 (2.1)	231 (2.8)	214 (7.0)
Colorado	233 (0.9)	207 (3.3)	214 (1.7)	227 (3.4)	222 (4.2)
Connecticut	237 (1.1)	203 (3.8)	211 (2.9)	*** (***)	*** (***)
Delaware	227 (0.9)	203 (1.8)	199 (3.6)	*** (***)	*** (***)
Dist. Columbia	246 (4.6)	196 (1.1)	188 (2.7)	*** (***)	*** (***)
Florida	224 (1.3)	195 (1.8)	210 (1.9)	*** (***)	*** (***)
Georgia	228 (1.2)	200 (1.4)	201 (2.8)	*** (***)	*** (***)
Hawaii	221 (1.9)	202 (5.0)	204 (3.5)	220 (1.5)	*** (***)
Idaho	228 (1.2)	*** (***)	210 (2.5)	*** (***)	221 (3.2)
Indiana	225 (1.3)	202 (2.6)	214 (2.1)	*** (***)	*** (***)
Iowa	231 (1.0)	208 (3.6)!	219 (3.0)	*** (***)	*** (***)
Kentucky	216 (1.1)	202 (2.6)	206 (3.1)	*** (***)	*** (***)
Louisiana	218 (1.8)	192 (2.1)	205 (4.7)	*** (***)	*** (***)
Maine	237 (1.0)	*** (***)	226 (3.2)	*** (***)	*** (***)
Maryland	230 (1.2)	198 (2.1)	214 (3.7)	235 (4.9)	*** (***)
Massachusetts	233 (1.2)	206 (2.8)	211 (2.7)	228 (7.0)	*** (***)
Michigan	229 (1.4)	191 (3.9)	209 (3.2)	*** (***)	215 (3.9)
Minnesota	233 (0.9)	198 (4.0)	208 (3.3)	*** (***)	*** (***)
Mississippi	217 (1.7)	192 (1.3)	188 (4.1)	*** (***)	*** (***)
Missouri	229 (1.1)	200 (2.3)	211 (2.9)	*** (***)	*** (***)
Nebraska	232 (1.2)	203 (2.7)	215 (3.2)	*** (***)	*** (***)
New Hampshire	234 (1.2)	*** (***)	220 (2.9)	*** (***)	*** (***)
New Jersey	234 (1.3)	200 (2.7)	210 (2.8)	239 (2.9)	*** (***)
New Mexico	229 (1.8)	207 (6.0)	211 (1.6)	*** (***)	216 (3.9)!
New York	226 (1.2)	203 (3.0)	202 (2.6)	239 (5.5)!	*** (***)
North Carolina	224 (1.5)	199 (1.7)	206 (4.5)	*** (***)	204 (8.3)!
North Dakota	230 (1.0)	*** (***)	221 (4.5)	*** (***)	215 (3.6)!
Ohio	224 (1.2)	200 (3.4)	215 (3.1)	*** (***)	220 (4.1)
Oklahoma	224 (1.1)	202 (3.1)	212 (2.7)	*** (***)	213 (2.2)
Pennsylvania	229 (1.2)	199 (2.4)	208 (2.6)	*** (***)	*** (***)
Rhode Island	223 (1.3)	191 (3.2)	194 (3.6)	205 (5.7)	*** (***)
South Carolina	227 (1.4)	199 (1.3)	206 (3.2)	*** (***)	*** (***)
Tennessee	217 (1.5)	195 (3.2)	198 (3.7)	*** (***)	*** (***)
Texas	230 (1.8)	200 (2.5)	212 (1.9)	241 (4.2)	*** (***)
Utah	229 (0.8)	*** (***)	212 (3.2)	*** (***)	*** (***)
Virginia	228 (1.6)	202 (1.7)	213 (3.6)	237 (4.3)	*** (***)
West Virginia	218 (1.0)	211 (5.5)	200 (3.7)	*** (***)	*** (***)
Wisconsin	233 (1.1)	200 (3.0)	213 (2.5)	*** (***)	213 (6.7)!
Wyoming	230 (1.1)	*** (***)	219 (2.2)	*** (***)	218 (3.6)!
TERRITORY					
Guam	213 (2.1)	199 (4.6)	190 (2.5)	202 (1.4)	*** (***)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 4.4 | Average Proficiency in Mathematics Content Area Geometry by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					Grade 8 - 1990				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	271 (1.2)	233 (1.7)	245 (1.4)	280 (6.2)	252 (3.5)	267 (1.5)	235 (3.2)	242 (2.7)	275 (5.6)!	246 (8.3)!
Northeast	273 (3.4)	236 (4.1)	241 (3.7)!	*** (***)	*** (***)	272 (2.5)	244 (9.1)!	*** (***)	*** (***)	*** (***)
Southeast	263 (1.5)	230 (2.3)	241 (3.4)!	*** (***)	*** (***)	260 (3.3)	232 (4.9)	*** (***)	*** (***)	*** (***)
Central	275 (2.0)	238 (3.1)	246 (4.5)	*** (***)	*** (***)	268 (2.5)	230 (6.5)!	*** (***)	*** (***)	*** (***)
West	271 (2.8)	232 (3.2)	246 (1.7)	279 (10.9)	*** (***)	268 (3.3)	245 (5.9)!	244 (3.2)	*** (***)	*** (***)
STATES										
Alabama	256 (1.7)	227 (2.8)	216 (5.9)	*** (***)	*** (***)	259 (1.4)	232 (1.9)	224 (4.1)	*** (***)	*** (***)
Arizona	268 (1.2)	247 (3.4)	245 (2.3)	*** (***)	251 (2.6)	266 (1.0)	247 (4.2)	239 (1.8)	*** (***)	241 (3.1)!
Arkansas	259 (1.3)	225 (2.5)	225 (4.4)	*** (***)	*** (***)	262 (1.0)	229 (1.7)	228 (5.1)	*** (***)	*** (***)
California	273 (2.0)	233 (3.9)	243 (2.4)	272 (3.0)	*** (***)	268 (1.7)	236 (3.3)	239 (1.6)	271 (2.7)	*** (***)
Colorado	274 (1.1)	237 (5.9)	255 (2.2)	*** (***)	*** (***)	272 (1.2)	238 (4.6)!	249 (1.6)	*** (***)	*** (***)
Connecticut	277 (0.9)	238 (2.8)	241 (2.6)	285 (8.7)	*** (***)	274 (1.1)	236 (3.0)	238 (3.5)	*** (***)	*** (***)
Delaware	266 (1.2)	237 (1.9)	242 (4.2)	*** (***)	*** (***)	263 (1.4)	240 (1.8)	243 (5.4)	*** (***)	*** (***)
Dist. Columbia	*** (***)	230 (1.1)	227 (5.1)	*** (***)	*** (***)	*** (***)	228 (1.0)	212 (3.5)	*** (***)	*** (***)
Florida	267 (1.2) >	233 (2.1)	246 (2.3)	*** (***)	*** (***)	261 (1.4)	227 (1.9)	240 (3.1)	263 (5.9)	*** (***)
Georgia	264 (1.7)	237 (2.1)	232 (6.6)	*** (***)	*** (***)	269 (1.6)	238 (1.5)	232 (5.2)	*** (***)	*** (***)
Hawaii	264 (2.1)	*** (***)	240 (3.1)	259 (1.2) >	*** (***)	262 (2.0)	*** (***)	233 (2.2)	253 (1.0)	*** (***)
Idaho	273 (1.0)	*** (***)	256 (2.3)	*** (***)	259 (3.5)	271 (1.0)	*** (***)	247 (3.5)	*** (***)	254 (4.8)
Indiana	270 (1.3)	242 (2.8)	247 (4.9)	*** (***)	*** (***)	267 (1.1)	246 (2.8)	245 (4.4)	*** (***)	*** (***)
Iowa	279 (1.2)	*** (***)	262 (3.7)	*** (***)	*** (***)	276 (1.2)	*** (***)	254 (4.9)	*** (***)	*** (***)
Kentucky	258 (1.1)	239 (3.1)	233 (5.1)	*** (***)	*** (***)	256 (1.3)	238 (2.7)	224 (4.3)	*** (***)	*** (***)
Louisiana	257 (1.9)	229 (2.1)	227 (4.3)	*** (***)	*** (***)	256 (1.5)	225 (1.5)	227 (4.8)	*** (***)	*** (***)
Maine	275 (1.0)	*** (***)	*** (***)	*** (***)	260 (4.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	272 (1.5)	234 (2.1)	239 (2.9)	280 (5.1)	*** (***)	269 (1.6)	233 (2.1)	234 (2.9)	285 (5.1)	*** (***)
Massachusetts	271 (1.1)	242 (5.2)	241 (4.2)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	271 (1.7)	229 (2.8)	245 (4.0)	*** (***)	*** (***)	267 (1.1)	232 (2.5)	243 (4.1)	*** (***)	*** (***)
Minnesota	279 (1.2)	*** (***)	259 (4.9) >	*** (***)	*** (***)	275 (1.0)	234 (4.6)!	237 (4.4)	268 (5.7)	*** (***)
Mississippi	256 (1.7)	222 (1.6)	218 (3.7)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	271 (1.2)	238 (4.4)	250 (4.9)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	277 (1.3)	240 (4.6)	257 (3.5)	*** (***)	*** (***)	277 (1.2)	228 (6.4)	253 (4.4)	*** (***)	*** (***)
New Hampshire	274 (0.9)	*** (***)	255 (6.1)	*** (***)	*** (***)	272 (1.0)	*** (***)	253 (4.8)	*** (***)	*** (***)
New Jersey	276 (1.7)	239 (3.8)	241 (3.9)	289 (3.3)	*** (***)	275 (1.4)	239 (2.5)	245 (2.6)	291 (4.1)	*** (***)
New Mexico	266 (1.4)	*** (***)	248 (1.0)	*** (***)	251 (3.2)	269 (1.2)	*** (***)	248 (1.3)	*** (***)	248 (2.1)
New York	273 (1.9)	229 (5.1)	243 (4.5)	274 (7.3)	*** (***)	272 (1.3)	234 (3.2)	238 (3.6)	277 (7.0)!	*** (***)
North Carolina	262 (1.3)	235 (2.0)	237 (4.0) >	*** (***)	*** (***)	259 (1.3)	233 (1.6)	221 (3.8)	*** (***)	232 (4.7)!
North Dakota	278 (1.4)	*** (***)	*** (***)	*** (***)	260 (5.1)!	280 (1.1)	*** (***)	243 (6.8)	*** (***)	246 (3.9)!
Ohio	267 (1.5)	233 (2.7)	242 (4.5)	*** (***)	*** (***)	265 (1.1)	230 (1.8)	240 (5.3)	*** (***)	*** (***)
Oklahoma	266 (1.2)	236 (3.0)	248 (3.5)	*** (***)	258 (3.5)	265 (1.3)	234 (2.6)	244 (4.8)	*** (***)	254 (3.0)
Pennsylvania	270 (1.2)	233 (4.7)	241 (4.1)!	*** (***)	*** (***)	269 (1.3)	233 (3.3)	230 (4.9)	*** (***)	*** (***)
Rhode Island	264 (1.0)	237 (3.6)	232 (3.5)	254 (5.6)	*** (***)	261 (1.1)	225 (4.3)	229 (3.4)	*** (***)	*** (***)
South Carolina	269 (1.5)	238 (1.5)	235 (3.7)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	260 (1.3)	228 (3.3)	235 (5.7)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	275 (1.6)	239 (3.0)	248 (1.9)	296 (5.5)	*** (***)	271 (1.4)	235 (2.0)	248 (2.2)	*** (***)	*** (***)
Utah	271 (1.1)	*** (***)	254 (3.4)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	267 (1.2)	240 (2.0)	252 (4.1)	278 (5.2)	*** (***)	268 (1.7)	238 (1.9)	242 (5.1)	292 (4.7)	*** (***)
West Virginia	255 (1.1)	239 (4.4)	233 (4.7)	*** (***)	*** (***)	256 (1.0)	233 (4.6)	231 (3.9)	*** (***)	*** (***)
Wisconsin	277 (1.4)	242 (6.3)	240 (4.7)	*** (***)	259 (5.6)!	277 (1.4)	236 (3.3)	251 (3.8)	*** (***)	*** (***)
Wyoming	275 (0.7)	*** (***)	255 (3.0)	*** (***)	254 (3.0)!	273 (0.8)	*** (***)	255 (2.2)	*** (***)	258 (2.9)
TERRITORIES										
Guam	262 (4.5)	*** (***)	227 (2.7)	241 (1.6)	*** (***)	256 (4.4)	*** (***)	218 (2.0)	240 (1.3)	*** (***)
Virgin Islands	*** (***)	225 (1.1)	214 (3.0)	*** (***)	*** (***)	*** (***)	225 (1.2)	213 (2.5)	*** (***)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 4.5 | Average Proficiency in Mathematics Content Area Data Analysis, Statistics, and Probability by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	227 (1.3)	191 (1.6)	201 (1.4)	229 (3.2)	209 (3.7)
Northeast	232 (2.5)	193 (3.0)	201 (3.5)	*** (***)	*** (***)
Southeast	221 (2.6)	190 (2.6)	201 (3.4)	*** (***)	*** (***)
Central	229 (2.0)	193 (4.2)	199 (3.0)	*** (***)	*** (***)
West	225 (2.2)	187 (3.2)	202 (2.0)	228 (4.0)	*** (***)
STATES					
Alabama	220 (1.7)	189 (1.5)	185 (4.4)	*** (***)	*** (***)
Arizona	224 (1.0)	195 (5.4)	203 (1.6)	*** (***)	192 (3.9)
Arkansas	219 (1.2)	189 (2.4)	193 (3.7)	*** (***)	209 (5.1)
California	219 (1.8)	181 (4.2)	189 (2.1)	220 (3.0)	203 (7.1)
Colorado	227 (1.3)	197 (3.5)	205 (2.4)	219 (5.3)	214 (4.9)
Connecticut	234 (1.5)	190 (4.6)	201 (3.4)	*** (***)	*** (***)
Delaware	228 (1.5)	198 (2.9)	203 (3.6)	*** (***)	*** (***)
Dist. Columbia	241 (5.6)	186 (0.9)	182 (3.3)	*** (***)	*** (***)
Florida	225 (1.4)	189 (2.3)	209 (2.7)	*** (***)	*** (***)
Georgia	231 (1.3)	200 (1.3)	201 (4.1)	*** (***)	*** (***)
Hawaii	217 (2.3)	198 (3.6)	197 (3.2)	213 (1.8)	*** (***)
Idaho	222 (1.0)	*** (***)	201 (2.6)	*** (***)	211 (3.0)
Indiana	226 (1.1)	195 (3.4)	210 (2.8)	*** (***)	*** (***)
Iowa	232 (0.9)	196 (4.0)!	219 (2.3)	*** (***)	*** (***)
Kentucky	217 (1.4)	200 (4.0)	198 (4.5)	*** (***)	*** (***)
Louisiana	220 (1.7)	185 (2.5)	198 (4.8)	*** (***)	*** (***)
Maine	232 (1.2)	*** (***)	222 (5.4)	*** (***)	*** (***)
Maryland	230 (1.4)	193 (1.9)	208 (4.0)	232 (4.5)	*** (***)
Massachusetts	231 (1.4)	189 (4.1)	204 (3.6)	225 (6.6)	*** (***)
Michigan	226 (1.5)	183 (4.4)	204 (3.1)	*** (***)	212 (3.4)
Minnesota	231 (1.0)	192 (4.9)	205 (4.4)	*** (***)	*** (***)
Mississippi	217 (1.5)	186 (1.9)	183 (3.7)	*** (***)	*** (***)
Missouri	229 (1.4)	196 (2.7)	212 (4.3)	*** (***)	*** (***)
Nebraska	229 (1.6)	187 (4.1)	209 (3.8)	*** (***)	*** (***)
New Hampshire	230 (1.5)	*** (***)	216 (4.8)	*** (***)	*** (***)
New Jersey	235 (1.4)	196 (3.1)	203 (3.3)	237 (4.5)	*** (***)
New Mexico	225 (1.8)	203 (5.7)	204 (1.7)	*** (***)	208 (4.1)!
New York	232 (1.5)	201 (3.6)	200 (3.5)	235 (4.8)!	*** (***)
North Carolina	225 (1.4)	192 (1.5)	200 (4.3)	*** (***)	204 (7.0)!
North Dakota	230 (1.4)	*** (***)	217 (4.1)	*** (***)	212 (3.7)!
Ohio	223 (1.3)	192 (3.5)	209 (3.0)	*** (***)	216 (4.8)
Oklahoma	226 (1.5)	199 (4.4)	212 (3.6)	*** (***)	214 (2.3)
Pennsylvania	230 (1.5)	192 (2.7)	200 (3.8)	*** (***)	*** (***)
Rhode Island	220 (1.3)	186 (4.4)	187 (3.3)	184 (4.8)	*** (***)
South Carolina	225 (1.6)	192 (1.3)	200 (4.4)	*** (***)	*** (***)
Tennessee	218 (1.4)	192 (2.6)	190 (4.8)	*** (***)	*** (***)
Texas	230 (1.8)	199 (3.0)	208 (2.1)	235 (7.2)	*** (***)
Utah	223 (1.3)	*** (***)	207 (2.4)	*** (***)	*** (***)
Virginia	232 (1.5)	199 (1.8)	213 (3.4)	238 (4.7)	*** (***)
West Virginia	215 (1.2)	207 (6.7)	200 (4.9)	*** (***)	*** (***)
Wisconsin	234 (1.1)	199 (3.0)	212 (3.4)	*** (***)	207 (8.5)!
Wyoming	226 (1.3)	*** (***)	217 (1.8)	*** (***)	212 (3.8)!
TERRITORY					
Guam	204 (2.2)	186 (5.9)	175 (3.4)	191 (1.3)	*** (***)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 4.5 | Average Proficiency in Mathematics Content Area Data Analysis, Statistics, and Probability by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					Grade 8 - 1990				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	278 (1.3)	234 (1.7)	241 (1.7)	286 (7.5)	253 (3.1)	272 (1.7)	232 (3.2)	239 (3.2)	281 (5.9)!	243(11.1)!
Northeast	282 (3.9)	238 (4.2)	238 (4.4)!	*** (***)	*** (***)	279 (3.0)	244 (9.8)!	*** (***)	*** (***)	*** (***)
Southeast	270 (1.8)	231 (2.2)	235 (3.7)!	*** (***)	*** (***)	265 (3.6)	230 (5.1)	*** (***)	*** (***)	*** (***)
Central	282 (2.1)	238 (3.8)	243 (4.3)	*** (***)	*** (***)	273 (2.5)	225 (6.0)!	*** (***)	*** (***)	*** (***)
West	279 (2.5)	232 (4.8)	242 (1.8)	285(12.4)	*** (***)	271 (3.9)	242 (7.5)!	240 (3.9)	*** (***)	*** (***)
STATES										
Alabama	265 (2.1)	227 (2.6)	220 (5.4)	*** (***)	*** (***)	264 (1.5)	227 (2.0)	225 (6.6)	*** (***)	*** (***)
Arizona	277 (1.5)	250 (3.8)	243 (3.2)	*** (***)	248 (3.9) >	273 (1.8)	239 (5.3)	238 (2.6)	*** (***)	226 (4.0)!
Arkansas	265 (1.5)	224 (2.5)	220 (7.2)	*** (***)	*** (***)	266 (1.2)	224 (2.1)	229 (5.1)	*** (***)	*** (***)
California	279 (2.5)	227 (4.3)	236 (2.6)	267 (4.0)	*** (***)	274 (1.9)	229 (5.4)	231 (3.1)	266 (4.0)	*** (***)
Colorado	281 (1.3)	240 (6.1)	252 (2.7)	*** (***)	*** (***)	277 (1.1)	236 (7.1)!	249 (1.8)	*** (***)	*** (***)
Connecticut	286 (1.2) >	238 (3.8)	235 (3.2)	283 (9.5)	*** (***)	281 (1.2)	244 (3.6)	226 (4.3)	*** (***)	*** (***)
Delaware	275 (1.1)	238 (2.4)	229 (5.5)	*** (***)	*** (***)	271 (1.7)	241 (2.2)	236 (5.5)	*** (***)	*** (***)
Dist. Columbia	*** (***)	228 (1.3) >	216 (4.9)	*** (***)	*** (***)	*** (***)	222 (1.0)	208 (7.0)	*** (***)	*** (***)
Florida	275 (1.5)	231 (3.0)	242 (3.1)	*** (***)	*** (***)	268 (1.8)	225 (2.4)	244 (3.3)	268 (5.6)	*** (***)
Georgia	272 (1.6)	239 (1.9)	229 (7.1)	*** (***)	*** (***)	276 (1.8)	237 (1.7)	228 (3.7)	*** (***)	*** (***)
Hawaii	262 (2.5)	*** (***)	230 (3.4)	250 (1.5) >	*** (***)	262 (2.5)	*** (***)	217 (3.0)	243 (1.2)	*** (***)
Idaho	277 (1.1)	*** (***)	247 (3.3)	*** (***)	254 (5.8)	276 (0.8)	*** (***)	247 (4.1)	*** (***)	249 (6.2)
Indiana	277 (1.5)	245 (3.5)	254 (5.6)	*** (***)	*** (***)	273 (1.2)	240 (3.9)	245 (5.3)	*** (***)	*** (***)
Iowa	287 (1.5)	*** (***)	260 (4.3)	*** (***)	*** (***)	282 (1.3)	*** (***)	260 (4.9)	*** (***)	*** (***)
Kentucky	266 (1.8)	236 (3.8)	227 (7.0)	*** (***)	*** (***)	262 (1.4)	237 (2.9)	223 (4.7)	*** (***)	*** (***)
Louisiana	263 (2.1)	229 (2.3)	224 (6.6)	*** (***)	*** (***)	260 (1.7)	222 (1.6)	216 (5.6)	*** (***)	*** (***)
Maine	284 (1.4)	*** (***)	*** (***)	*** (***)	263 (5.5)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	282 (1.8)	239 (2.1)	238 (3.5)	281 (5.9)	*** (***)	275 (2.0)	237 (2.0)	235 (3.8)	286 (5.2)	*** (***)
Massachusetts	279 (1.9)	243 (5.9)	232 (6.4)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	279 (1.5)	230 (2.6)	245 (5.3)	*** (***)	*** (***)	273 (1.2)	225 (2.5)	236 (4.5)	*** (***)	*** (***)
Minnesota	286 (1.4)	*** (***)	258 (6.0)	*** (***)	*** (***)	281 (1.0)	245 (7.6)!	242 (6.4)	269 (6.4)	*** (***)
Mississippi	264 (2.0)	224 (1.9)	214 (3.6)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	278 (1.4)	238 (4.0)	242 (4.7)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	283 (1.6)	228 (5.1)	251 (4.4)	*** (***)	*** (***)	282 (1.2)	235 (5.1)	251 (6.0)	*** (***)	*** (***)
New Hampshire	282 (1.5) >	*** (***)	259 (6.7)	*** (***)	*** (***)	276 (1.2)	*** (***)	248 (5.9)	*** (***)	*** (***)
New Jersey	285 (1.8)	240 (3.1)	239 (5.5)	293 (4.1)	*** (***)	282 (1.3)	238 (2.6)	239 (3.0)	295 (6.3)	*** (***)
New Mexico	273 (1.9)	*** (***)	245 (1.5)	*** (***)	248 (2.9) »	273 (2.1)	*** (***)	243 (1.9)	*** (***)	228 (2.5)
New York	284 (1.8)	230 (5.7)	237 (6.6)	279 (8.1)	*** (***)	279 (1.3)	235 (4.4)	231 (4.7)	279 (7.9)!	*** (***)
North Carolina	268 (1.2)	234 (2.3)	239 (7.5) >	*** (***)	*** (***)	262 (2.1)	227 (1.8)	208 (4.7)	*** (***)	225 (7.9)!
North Dakota	287 (1.3)	*** (***)	*** (***)	*** (***)	262 (5.3)! >	289 (1.4)	*** (***)	261 (7.2)	*** (***)	242 (4.4)!
Ohio	277 (2.0)	234 (2.8)	241 (7.0)	*** (***)	*** (***)	273 (1.1)	228 (3.4)	236 (6.1)	*** (***)	*** (***)
Oklahoma	274 (1.3)	234 (3.0)	256 (4.3)	*** (***)	262 (3.7)	271 (2.0)	235 (3.1)	242 (6.0)	*** (***)	253 (3.6)
Pennsylvania	279 (1.4)	234 (6.3)	246 (7.3)!	*** (***)	*** (***)	274 (1.3)	237 (3.6)	225 (5.0)	*** (***)	*** (***)
Rhode Island	272 (1.4) >	241 (3.8) »	221 (4.0)	263 (7.9)	*** (***)	266 (0.8)	214 (3.6)	220 (3.8)	*** (***)	*** (***)
South Carolina	274 (1.7)	238 (1.8)	225 (4.4)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	268 (1.4)	229 (2.6)	223 (6.8)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	281 (2.4)	242 (2.6)	243 (1.6)	303 (7.5)	*** (***)	276 (1.8)	230 (3.5)	241 (2.7)	*** (***)	*** (***)
Utah	278 (1.2)	*** (***)	254 (3.9)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	277 (1.5)	241 (3.1)	252 (5.6)	281 (6.2)	*** (***)	273 (2.0)	239 (2.4)	233 (5.6)	296 (5.3)	*** (***)
West Virginia	261 (1.2)	242 (4.1)	224 (7.7)	*** (***)	*** (***)	258 (1.6)	235 (5.6)	230 (4.8)	*** (***)	*** (***)
Wisconsin	285 (1.8)	247 (9.2)	246 (5.3)	*** (***)	261 (7.9)!	282 (1.3)	239 (5.6)	248 (6.4)	*** (***)	*** (***)
Wyoming	278 (1.2)	*** (***)	256 (3.1)	*** (***)	245 (3.6)! <	276 (1.0)	*** (***)	258 (2.7)	*** (***)	261 (3.1)
TERRITORIES										
Guam	261 (6.6)	*** (***)	200 (3.6) >	224 (2.5)	*** (***)	247 (5.4)	*** (***)	184 (2.9)	219 (1.5)	*** (***)
Virgin Islands	*** (***)	216 (2.3) »	208 (3.9) »	*** (***)	*** (***)	*** (***)	200 (2.4)	183 (3.0)	*** (***)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 4.6 | Average Proficiency in Mathematics Content Area Algebra and Functions by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	224 (1.1)	190 (1.7)	197 (1.7)	233 (3.4)	207 (3.8)
Northeast	232 (2.6)	194 (3.3)	199 (2.7)	*** (***)	*** (***)
Southeast	216 (2.7)	188 (2.3)	195 (3.6)	*** (***)	*** (***)
Central	226 (1.9)	192 (4.1)	195 (3.9)	*** (***)	*** (***)
West	224 (2.2)	187 (2.8)	197 (2.6)	232 (3.5)	*** (***)
STATES					
Alabama	215 (1.8)	182 (1.8)	195 (4.8)	*** (***)	*** (***)
Arizona	224 (1.6)	198 (3.3)	200 (1.9)	*** (***)	193 (3.9)
Arkansas	214 (1.0)	184 (2.1)	189 (3.9)	*** (***)	205 (4.5)
California	219 (1.9)	186 (5.1)	194 (1.9)	222 (4.6)	209 (6.1)
Colorado	225 (1.5)	196 (3.9)	199 (2.2)	219 (5.3)	209 (4.1)
Connecticut	234 (1.2)	196 (4.1)	198 (3.4)	*** (***)	*** (***)
Delaware	224 (1.1)	194 (2.1)	194 (4.0)	*** (***)	*** (***)
Dist. Columbia	239 (4.8)	188 (0.8)	186 (2.7)	*** (***)	*** (***)
Florida	222 (2.2)	189 (3.0)	204 (3.9)	*** (***)	*** (***)
Georgia	227 (2.4)	194 (2.6)	195 (3.1)	*** (***)	*** (***)
Hawaii	217 (2.1)	200 (4.9)	197 (3.9)	211 (2.0)	*** (***)
Idaho	220 (1.1)	*** (***)	200 (2.9)	*** (***)	209 (3.6)
Indiana	222 (1.6)	193 (4.2)	209 (3.6)	*** (***)	*** (***)
Iowa	227 (1.3)	194 (5.7)!	218 (4.8)	*** (***)	*** (***)
Kentucky	214 (1.5)	198 (4.9)	199 (3.8)	*** (***)	*** (***)
Louisiana	214 (2.0)	185 (2.6)	192 (5.3)	*** (***)	*** (***)
Maine	229 (1.8)	*** (***)	212 (5.1)	*** (***)	*** (***)
Maryland	226 (1.3)	194 (2.5)	205 (6.0)	232 (4.2)	*** (***)
Massachusetts	228 (1.4)	191 (3.7)	202 (5.2)	222 (7.9)	*** (***)
Michigan	223 (2.4)	187 (4.2)	203 (4.4)	*** (***)	206 (4.9)
Minnesota	228 (1.0)	186 (5.9)	206 (4.7)	*** (***)	*** (***)
Mississippi	212 (1.6)	183 (1.6)	180 (4.9)	*** (***)	*** (***)
Missouri	225 (1.2)	196 (3.2)	202 (4.6)	*** (***)	*** (***)
Nebraska	225 (1.6)	177 (3.3)	202 (4.9)	*** (***)	*** (***)
New Hampshire	228 (1.5)	*** (***)	213 (5.5)	*** (***)	*** (***)
New Jersey	234 (2.0)	192 (2.8)	204 (2.8)	233 (4.0)	*** (***)
New Mexico	222 (2.5)	201 (6.4)	200 (1.6)	*** (***)	205 (6.5)!
New York	226 (1.8)	196 (3.7)	195 (3.1)	231 (5.0)!	*** (***)
North Carolina	220 (1.5)	193 (2.1)	196 (4.8)	*** (***)	201 (6.0)!
North Dakota	226 (1.3)	*** (***)	206 (4.8)	*** (***)	212 (4.2)!
Ohio	220 (1.2)	189 (3.3)	200 (3.8)	*** (***)	213 (5.3)
Oklahoma	222 (1.3)	200 (5.2)	203 (4.4)	*** (***)	209 (2.2)
Pennsylvania	229 (1.3)	188 (3.3)	201 (3.2)	*** (***)	*** (***)
Rhode Island	219 (1.9)	185 (5.2)	186 (3.8)	195 (5.3)	*** (***)
South Carolina	221 (1.8)	190 (1.6)	189 (4.7)	*** (***)	*** (***)
Tennessee	215 (1.8)	193 (2.2)	186 (3.6)	*** (***)	*** (***)
Texas	227 (2.1)	199 (2.0)	207 (1.8)	231 (4.9)	*** (***)
Utah	224 (1.2)	*** (***)	201 (2.6)	*** (***)	*** (***)
Virginia	225 (2.1)	194 (2.5)	209 (5.3)	236 (5.6)	*** (***)
West Virginia	212 (1.5)	196 (6.9)	196 (5.2)	*** (***)	*** (***)
Wisconsin	231 (1.3)	193 (3.4)	210 (3.9)	*** (***)	205 (7.6)!
Wyoming	224 (1.2)	*** (***)	209 (2.8)	*** (***)	211 (4.4)!
TERRITORY					
Guam	206 (2.7)	192 (6.8)	182 (2.4)	192 (1.4)	*** (***)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 4.6 | Average Proficiency in Mathematics Content Area Algebra and Functions by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					Grade 8 - 1990				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	275 (1.3)	237 (2.1)	243 (1.5)	288 (6.4)	253 (2.9)	268 (1.4)	239 (2.6)	241 (3.0)	279 (5.7)!	240 (7.9)!
Northeast	278 (3.2)	240 (3.8)	240 (3.6)!	*** (***)	*** (***)	271 (2.8)	247 (8.2)!	*** (***)	*** (***)	*** (***)
Southeast	269 (1.5)	236 (2.1)	240 (2.4)!	*** (***)	*** (***)	265 (2.9)	238 (4.0)	*** (***)	*** (***)	*** (***)
Central	279 (2.4)	241 (3.7)	243 (4.6)	*** (***)	*** (***)	268 (2.6)	230 (4.5)!	*** (***)	*** (***)	*** (***)
West	275 (3.0)	234 (5.0)	244 (2.1)	287(11.1)	*** (***)	267 (3.1)	245 (4.9)!	243 (3.7)	*** (***)	*** (***)
STATES										
Alabama	264 (2.0)	233 (2.5)	221 (5.9)	*** (***)	*** (***)	261 (1.3)	233 (2.3)	229 (5.0)	*** (***)	*** (***)
Arizona	273 (1.2)	253 (4.6)	248 (2.9)	*** (***)	251 (4.1)»	269 (1.3)	245 (5.0)	240 (1.9)	*** (***)	232 (2.6)!
Arkansas	263 (1.5)	233 (2.2)	228 (4.8)	*** (***)	*** (***)	261 (1.3)	231 (1.9)	222 (5.4)	*** (***)	*** (***)
California	273 (2.4)	237 (4.4)	238 (2.3)	277 (3.9)	*** (***)	270 (1.7)	236 (3.4)	236 (1.7)	273 (2.7)	*** (***)
Colorado	276 (1.2)	241 (4.5)	252 (1.6)»	*** (***)	*** (***)	273 (1.0)	238 (3.3)!	242 (1.8)	*** (***)	*** (***)
Connecticut	280 (1.2)	241 (4.0)	239 (3.9)	285 (8.5)	*** (***)	275 (1.5)	240 (3.1)	239 (2.9)	*** (***)	*** (***)
Delaware	272 (1.8)	243 (1.8)	238 (3.2)	*** (***)	*** (***)	267 (1.1)	239 (2.0)	242 (5.2)	*** (***)	*** (***)
Dist. Columbia	*** (***)	236 (1.3)	223 (4.7)	*** (***)	*** (***)	*** (***)	235 (1.2)	220 (3.7)	*** (***)	*** (***)
Florida	272 (1.5) >	239 (3.0)	248 (2.9)	*** (***)	*** (***)	265 (1.8)	232 (2.4)	246 (3.0)	277 (5.7)	*** (***)
Georgia	270 (1.5)	241 (2.1)	234 (5.5)	*** (***)	*** (***)	270 (1.8)	239 (1.8)	230 (3.9)	*** (***)	*** (***)
Hawaii	264 (1.9)	*** (***)	238 (2.6)	259 (1.4)»	*** (***)	258 (2.2)	*** (***)	230 (2.8)	250 (1.3)	*** (***)
Idaho	276 (0.9) >	*** (***)	252 (3.5)	*** (***)	259 (4.4)	272 (1.0)	*** (***)	246 (3.6)	*** (***)	252 (6.1)
Indiana	271 (1.4)	241 (3.2)	245 (5.5)	*** (***)	*** (***)	269 (1.0)	239 (3.7)	237 (4.3)	*** (***)	*** (***)
Iowa	281 (1.3)	*** (***)	261 (6.1)	*** (***)	*** (***)	276 (1.2)	*** (***)	251 (4.5)	*** (***)	*** (***)
Kentucky	263 (1.4)	243 (3.5)	222 (5.6)	*** (***)	*** (***)	259 (1.4)	242 (2.8)	229 (5.1)	*** (***)	*** (***)
Louisiana	262 (1.9)	234 (2.6)	228 (4.5)	*** (***)	*** (***)	258 (1.8)	231 (1.6)	222 (4.5)	*** (***)	*** (***)
Maine	275 (1.1)	*** (***)	*** (***)	*** (***)	256 (5.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	276 (2.1)	240 (2.5)	242 (4.0)	294 (6.1)	*** (***)	274 (1.7)	241 (2.1)	239 (3.7)	295 (5.7)	*** (***)
Massachusetts	276 (1.5)	245 (5.6)	243 (3.3)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	276 (1.7)	233 (2.3)	244 (4.7)	*** (***)	*** (***)	271 (1.1)	234 (2.8)	241 (3.4)	*** (***)	*** (***)
Minnesota	283 (1.2)»	*** (***)	248 (6.5)	*** (***)	*** (***)	276 (1.0)	238 (6.2)!	239 (5.1)	271 (7.2)	*** (***)
Mississippi	261 (1.9)	230 (1.7)	217 (3.8)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	274 (1.3)	245 (3.0)	254 (5.8)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	279 (1.6)	239 (5.4)	256 (4.3)	*** (***)	*** (***)	276 (1.1)	234 (6.2)	251 (4.6)	*** (***)	*** (***)
New Hampshire	275 (1.0)	*** (***)	256 (5.9)	*** (***)	*** (***)	272 (1.0)	*** (***)	251 (4.8)	*** (***)	*** (***)
New Jersey	283 (1.4)	243 (3.0)	250 (4.5)	298 (5.4)	*** (***)	278 (1.4)	242 (2.9)	243 (2.9)	295 (5.3)	*** (***)
New Mexico	271 (1.4)	*** (***)	246 (1.5)	*** (***)	247 (3.3)	272 (1.2)	*** (***)	248 (1.5)	*** (***)	235 (2.0)
New York	276 (1.2)	233 (5.2)	246 (5.4)	283 (7.4)	*** (***)	271 (1.2)	241 (3.0)	237 (2.9)	277 (6.9)!	*** (***)
North Carolina	267 (1.2)	241 (2.6)	237 (5.9)	*** (***)	*** (***)	263 (1.5)	233 (1.4)	220 (3.8)	*** (***)	237 (5.5)!
North Dakota	280 (1.2)	*** (***)	*** (***)	*** (***)	261 (4.6)!»	278 (1.0)	*** (***)	244 (6.0)	*** (***)	236 (4.1)!
Ohio	273 (1.9)	237 (2.9)	243 (5.7)	*** (***)	*** (***)	267 (1.0)	235 (3.0)	236 (4.7)	*** (***)	*** (***)
Oklahoma	272 (1.2)	239 (4.3)	253 (4.4)	*** (***)	261 (3.2)	267 (1.3)	238 (3.3)	247 (4.9)	*** (***)	255 (2.7)
Pennsylvania	275 (1.2)	240 (4.9)	244 (3.8)!	*** (***)	*** (***)	271 (1.2)	240 (3.0)	227 (5.3)	*** (***)	*** (***)
Rhode Island	271 (1.4)	244 (4.4)	234 (3.6)	266 (5.6)	*** (***)	266 (0.9)	234 (3.5)	230 (2.5)	*** (***)	*** (***)
South Carolina	272 (1.4)	241 (1.3)	232 (4.1)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	264 (1.4)	235 (3.4)	224 (7.6)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	279 (1.7) >	250 (2.8)»	250 (1.4) >	302 (4.9)	*** (***)	272 (1.6)	234 (2.2)	242 (1.9)	*** (***)	*** (***)
Utah	274 (1.0)	*** (***)	250 (2.9)	*** (***)	*** (***)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	274 (1.4)	247 (2.6)	249 (4.1)	280 (5.8)	*** (***)	272 (1.7)	246 (2.0)	245 (5.2)	297 (4.1)	*** (***)
West Virginia	258 (1.3)	245 (4.8)	231 (5.8)	*** (***)	*** (***)	256 (1.0)	231 (4.9)	228 (5.2)	*** (***)	*** (***)
Wisconsin	279 (1.4)	243 (6.6)	246 (3.7)	*** (***)	259 (6.6)!	275 (1.2)	236 (5.2)	245 (4.5)	*** (***)	*** (***)
Wyoming	274 (1.0)	*** (***)	255 (3.0)	*** (***)	244 (3.4)!	273 (0.8)	*** (***)	251 (2.8)	*** (***)	252 (3.8)
TERRITORIES										
Guam	271 (6.7)	*** (***)	218 (3.6)	237 (1.4)	*** (***)	256 (4.6)	*** (***)	207 (2.8)	234 (0.9)	*** (***)
Virgin Islands	*** (***)	224 (1.7)	211 (2.9)	*** (***)	*** (***)	*** (***)	221 (1.6)	212 (3.0)	*** (***)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 4.7 | Average Proficiency in Mathematics Content Area Estimation by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	218 (2.1)	173 (3.5)	190 (3.1)	*** (***)	*** (***)
Northeast	222 (6.5)!	*** (***)	*** (***)	*** (***)	*** (***)
Southeast	210 (3.7)	169 (5.2)	*** (***)	*** (***)	*** (***)
Central	221 (4.1)	*** (***)	*** (***)	*** (***)	*** (***)
West	221 (4.0)	*** (***)	195 (4.3)!	*** (***)	*** (***)
STATES					
Alabama	209 (1.9)	175 (2.0)	185 (4.6)	*** (***)	*** (***)
Arizona	216 (1.1)	183 (4.4)	192 (1.8)	*** (***)	182 (3.9)
Arkansas	206 (1.4)	172 (3.2)	177 (4.8)	*** (***)	196 (4.7)
California	214 (1.8)	178 (3.1)	190 (2.1)	211 (3.4)	201 (5.5)
Colorado	219 (1.2)	189 (3.3)	198 (2.0)	213 (5.6)	204 (4.2)
Connecticut	226 (1.1)	182 (4.0)	191 (3.5)	*** (***)	*** (***)
Delaware	213 (1.6)	178 (1.9)	184 (3.9)	*** (***)	*** (***)
Dist. Columbia	228 (5.5)	167 (1.0)	166 (2.8)	*** (***)	*** (***)
Florida	212 (1.7)	173 (2.4)	194 (2.7)	*** (***)	*** (***)
Georgia	215 (1.4)	177 (1.8)	187 (3.6)	*** (***)	*** (***)
Hawaii	206 (2.2)	186 (3.7)	186 (2.9)	199 (2.0)	*** (***)
Idaho	214 (1.0)	*** (***)	193 (3.4)	*** (***)	204 (3.7)
Indiana	215 (1.5)	176 (3.0)	197 (4.8)	*** (***)	*** (***)
Iowa	223 (1.3)	176 (4.8)!	206 (3.0)	*** (***)	*** (***)
Kentucky	208 (1.3)	184 (4.5)	194 (4.5)	*** (***)	*** (***)
Louisiana	203 (1.5)	171 (2.4)	180 (5.4)	*** (***)	*** (***)
Maine	221 (1.5)	*** (***)	204 (3.6)	*** (***)	*** (***)
Maryland	213 (1.4)	173 (2.4)	188 (3.9)	217 (6.0)	*** (***)
Massachusetts	223 (1.2)	169 (3.8)	196 (3.5)	221 (9.7)	*** (***)
Michigan	218 (1.9)	165 (4.0)	196 (4.1)	*** (***)	202 (4.6)
Minnesota	227 (1.3)	186 (5.0)	201 (3.5)	*** (***)	*** (***)
Mississippi	206 (1.9)	175 (1.9)	175 (3.8)	*** (***)	*** (***)
Missouri	217 (1.5)	180 (2.5)	200 (5.1)	*** (***)	*** (***)
Nebraska	220 (1.3)	176 (3.9)	195 (5.2)	*** (***)	*** (***)
New Hampshire	223 (1.5)	*** (***)	208 (3.6)	*** (***)	*** (***)
New Jersey	225 (1.3)	176 (3.6)	189 (4.1)	229 (4.1)	*** (***)
New Mexico	214 (2.2)	201 (4.1)	193 (1.8)	*** (***)	196 (5.9)!
New York	217 (1.5)	176 (3.9)	183 (4.0)	221 (4.7)!	*** (***)
North Carolina	210 (1.5)	174 (1.8)	186 (4.4)	*** (***)	186 (5.3)!
North Dakota	224 (1.2)	*** (***)	207 (5.1)	*** (***)	202 (4.7)!
Ohio	214 (1.5)	181 (3.1)	201 (3.2)	*** (***)	211 (4.5)
Oklahoma	215 (1.3)	191 (3.4)	202 (4.9)	*** (***)	203 (3.1)
Pennsylvania	221 (1.4)	174 (3.9)	187 (2.9)	*** (***)	*** (***)
Rhode Island	213 (1.6)	175 (4.5)	177 (3.4)	188 (6.8)	*** (***)
South Carolina	212 (1.6)	173 (1.7)	184 (4.1)	*** (***)	*** (***)
Tennessee	208 (1.2)	179 (2.9)	185 (4.8)	*** (***)	*** (***)
Texas	212 (2.3)	179 (2.4)	188 (2.5)	218 (7.2)	*** (***)
Utah	216 (0.9)	*** (***)	196 (3.0)	*** (***)	*** (***)
Virginia	216 (1.8)	178 (1.9)	198 (5.3)	219 (6.5)	*** (***)
West Virginia	205 (1.5)	192 (6.0)	192 (5.2)	*** (***)	*** (***)
Wisconsin	225 (1.5)	187 (3.4)	200 (4.4)	*** (***)	198 (7.3)!
Wyoming	219 (1.2)	*** (***)	205 (2.0)	*** (***)	204 (5.0)!
TERRITORY					
Guam	187 (2.3)	161 (6.7)	164 (2.6)	173 (1.3)	*** (***)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 4.7 | Average Proficiency in Mathematics Content Area Estimation by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992				
	White	**Black**	**Hispanic**	**Asian / Pacific Islander**	**American Indian**
NATION	276 (1.6)	248 (3.5)	252 (2.6)	*** (***)	*** (***)
Northeast	283 (4.3)	237 (4.6)!	245 (6.6)!	*** (***)	*** (***)
Southeast	270 (2.8)	250 (3.3)!	*** (***)	*** (***)	*** (***)
Central	280 (2.3)	255 (9.5)!	*** (***)	*** (***)	*** (***)
West	275 (2.8)	*** (***)	255 (3.2)	*** (***)	*** (***)
STATES					
Alabama	269 (1.2)	245 (1.4)	239 (3.2)	*** (***)	*** (***)
Arizona	276 (0.9)	257 (2.5)	256 (2.0)	*** (***)	256 (3.1)
Arkansas	270 (1.2)	243 (2.0)	244 (3.1)	*** (***)	*** (***)
California	275 (1.5)	241 (2.8)	249 (1.7)	275 (2.5)	*** (***)
Colorado	277 (0.9)	249 (3.2)	261 (1.6)	*** (***)	*** (***)
Connecticut	282 (0.9)	251 (2.5)	250 (2.0)	289 (6.1)	*** (***)
Delaware	272 (0.9)	249 (1.6)	246 (3.0)	*** (***)	*** (***)
Dist. Columbia	*** (***)	240 (0.9)	235 (2.8)	*** (***)	*** (***)
Florida	274 (1.0)	247 (1.8)	254 (2.0)	*** (***)	*** (***)
Georgia	272 (1.0)	250 (1.2)	249 (4.4)	*** (***)	*** (***)
Hawaii	266 (1.4)	*** (***)	248 (2.2)	262 (0.9)	*** (***)
Idaho	276 (0.6)	*** (***)	259 (2.1)	*** (***)	263 (3.0)
Indiana	274 (0.9)	252 (2.2)	253 (3.1)	*** (***)	*** (***)
Iowa	283 (0.9)	*** (***)	266 (3.5)	*** (***)	*** (***)
Kentucky	268 (0.8)	247 (2.8)	247 (3.8)	*** (***)	*** (***)
Louisiana	267 (1.5)	246 (1.8)	244 (2.5)	*** (***)	*** (***)
Maine	276 (1.0)	*** (***)	*** (***)	*** (***)	262 (3.4)
Maryland	275 (1.2)	244 (1.4)	245 (2.5)	283 (3.8)	*** (***)
Massachusetts	278 (0.9)	251 (4.6)	254 (2.9)	*** (***)	*** (***)
Michigan	275 (1.1)	240 (1.7)	260 (3.7)	*** (***)	*** (***)
Minnesota	285 (0.8)	*** (***)	261 (3.2)	*** (***)	*** (***)
Mississippi	270 (1.3)	247 (1.1)	243 (3.5)	*** (***)	*** (***)
Missouri	275 (0.9)	247 (3.7)	259 (3.9)	*** (***)	*** (***)
Nebraska	281 (0.9)	240 (3.9)	264 (3.4)	*** (***)	*** (***)
New Hampshire	278 (0.8)	*** (***)	266 (4.2)	*** (***)	*** (***)
New Jersey	282 (1.2)	253 (2.3)	256 (2.9)	291 (3.0)	*** (***)
New Mexico	274 (1.2)	*** (***)	258 (1.0)	*** (***)	259 (2.3)
New York	277 (0.8)	241 (3.9)	247 (4.6)	273 (5.1)	*** (***)
North Carolina	269 (1.0)	247 (1.4)	252 (4.8)	*** (***)	*** (***)
North Dakota	284 (1.0)	*** (***)	*** (***)	*** (***)	269 (4.6)!
Ohio	275 (1.0)	243 (1.5)	254 (4.9)	*** (***)	*** (***)
Oklahoma	275 (0.9)	250 (2.9)	259 (2.8)	*** (***)	267 (2.3)
Pennsylvania	276 (1.0)	247 (3.7)	253 (4.0)!	*** (***)	*** (***)
Rhode Island	273 (0.8)	253 (2.5)	244 (2.0)	267 (4.0)	*** (***)
South Carolina	274 (0.9)	250 (1.2)	246 (2.7)	*** (***)	*** (***)
Tennessee	270 (1.2)	246 (2.2)	248 (3.9)	*** (***)	*** (***)
Texas	278 (1.2)	251 (1.7)	256 (1.2)	294 (4.4)	*** (***)
Utah	276 (0.7)	*** (***)	260 (2.3)	*** (***)	*** (***)
Virginia	277 (1.0)	253 (1.2)	257 (3.4)	279 (4.1)	*** (***)
West Virginia	264 (0.8)	247 (3.0)	243 (6.1)	*** (***)	*** (***)
Wisconsin	281 (0.9)	252 (4.4)	256 (3.2)	*** (***)	266 (5.1)!
Wyoming	279 (0.8)	*** (***)	264 (2.3)	*** (***)	255 (3.3)!
TERRITORIES					
Guam	266 (4.2)	*** (***)	230 (2.4)	245 (1.6)	*** (***)
Virgin Islands	*** (***)	233 (1.3)	226 (2.9)	*** (***)	*** (***)

Descriptions of the content area scales are found in Chapter Three.

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TABLE 4.8 Average Proficiency in Mathematics Content Areas by Gender, Grades 4, 8, and 12

	Assessment Years	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
Grade 4							
Male	1992	217 (0.9)>	225 (1.0)>	222 (0.8)>	220 (0.9)	216 (1.1)	212 (1.7)
	1990	210 (1.4)	221 (1.3)	213 (1.2)	--	214 (1.3)	204 (2.1)
Female	1992	214 (1.2)>	222 (1.1)>	220 (0.9)>	219 (1.2)	217 (1.6)	205 (2.1)>
	1990	210 (1.3)	216 (1.3)	213 (1.2)	--	214 (1.1)	197 (2.0)
Grade 8							
Male	1992	271 (1.0)>	268 (1.4)>	263 (1.2)	268 (1.3)>	266 (1.2)>	274 (1.6)
	1990	266 (1.6)	263 (2.0)	261 (1.6)	264 (1.9)	261 (1.6)	270 (1.5)
Female	1992	272 (1.0)>	264 (1.5)>	263 (1.0)>	269 (1.2)>	269 (1.2)>	267 (1.4)
	1990	267 (1.3)	255 (1.5)	259 (1.3)	263 (1.6)	262 (1.3)	267 (1.4)
Grade 12							
Male	1992	299 (1.0)>	301 (1.2)	304 (1.2)>	299 (1.2)	300 (1.2)	298 (1.5)
	1990	296 (1.3)	298 (4.5)	298 (1.5)	297 (1.4)	297 (1.4)	296 (1.8)
Female	1992	297 (1.0)>	294 (1.1)>	298 (1.2)>	296 (1.1)>	299 (1.1)>	290 (1.4)
	1990	290 (1.2)	288 (1.5)	293 (1.6)	292 (1.5)	295 (1.3)	289 (1.8)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent of 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

TABLE 4.9 | Average Proficiency in Mathematics Content Areas by Gender

PUBLIC SCHOOLS	Grade 4 - 1992					
	Numbers and Operations		Measurement		Geometry	
	Male	Female	Male	Female	Male	Female
NATION	216 (1.0)	213 (1.3)	224 (1.1)	221 (1.2)	221 (0.8)	219 (1.0)
Northeast	223 (2.4)	217 (3.0)	230 (2.7)	224 (2.8)	226 (2.1)	222 (3.1)
Southeast	205 (1.6)	205 (3.1)	215 (1.9)	213 (2.7)	212 (1.8)	212 (1.7)
Central	221 (2.8)	216 (2.6)	231 (3.0)	226 (2.8)	226 (2.5)	222 (2.4)
West	214 (1.8)	214 (2.3)	221 (1.8)	220 (1.7)	222 (1.5)	221 (1.5)
STATES						
Alabama	204 (2.1)	204 (2.0)	215 (2.0)	211 (1.8)	209 (1.7)	210 (1.5)
Arizona	209 (1.6)	211 (1.4)	219 (1.5)	218 (1.6)	218 (1.2)	220 (1.2)
Arkansas	205 (1.3)	205 (1.3)	217 (1.8)	213 (1.8)	212 (1.5)	212 (1.4)
California	204 (2.1)	204 (1.9)	213 (2.2)	207 (2.1)	212 (2.2)	213 (1.7)
Colorado	216 (1.4)	215 (1.2)	228 (1.5)	222 (1.5)	226 (1.1)	227 (1.3)
Connecticut	225 (1.6)	221 (1.6)	233 (1.6)	228 (1.5)	229 (1.4)	230 (1.5)
Delaware	215 (1.6)	213 (1.3)	223 (1.5)	218 (1.5)	219 (1.3)	219 (1.5)
Dist. Columbia	190 (1.2)	188 (1.2)	194 (1.5)	191 (1.0)	197 (1.3)	199 (1.2)
Florida	209 (2.0)	208 (1.9)	222 (2.0)	216 (1.9)	217 (1.3)	214 (1.6)
Georgia	210 (1.7)	212 (1.5)	221 (2.0)	218 (1.6)	215 (1.6)	217 (1.2)
Hawaii	209 (1.8)	212 (1.4)	216 (2.2)	217 (1.8)	215 (1.6)	220 (1.2)
Idaho	218 (1.7)	214 (1.3)	231 (1.4)	224 (1.3)	227 (1.3)	225 (1.6)
Indiana	217 (1.7)	214 (1.4)	229 (2.0)	224 (1.4)	223 (1.4)	222 (1.3)
Iowa	228 (1.4)	226 (1.6)	237 (1.4)	232 (1.5)	228 (1.1)	231 (1.3)
Kentucky	211 (1.6)	211 (1.2)	220 (1.4)	217 (1.4)	214 (1.3)	215 (1.3)
Louisiana	200 (1.9)	199 (1.6)	209 (1.8)	207 (2.0)	207 (1.8)	206 (1.9)
Maine	227 (1.7)	227 (1.6)	239 (1.5)	234 (1.8)	235 (1.6)	237 (1.5)
Maryland	215 (1.6)	212 (1.8)	224 (2.0)	215 (1.9)	220 (1.6)	218 (1.4)
Massachusetts	225 (1.4)	222 (1.4)	232 (2.1)	226 (1.8)	228 (1.2)	229 (1.5)
Michigan	218 (2.2)	212 (2.1)	229 (2.2)	221 (2.1)	222 (1.8)	222 (2.0)
Minnesota	225 (1.3)	224 (1.4)	237 (1.4)	230 (1.7)	229 (1.1)	231 (1.2)
Mississippi	197 (1.6)	200 (1.7)	206 (1.9)	206 (1.5)	200 (1.4)	205 (1.2)
Missouri	217 (1.7)	218 (1.7)	227 (2.0)	226 (1.6)	222 (1.2)	225 (1.5)
Nebraska	223 (1.7)	220 (1.7)	232 (1.8)	227 (1.7)	230 (1.2)	228 (1.5)
New Hampshire	226 (1.7)	225 (1.5)	236 (1.9)	231 (1.6)	233 (1.7)	233 (1.7)
New Jersey	226 (1.9)	224 (1.8)	233 (2.1)	228 (2.0)	226 (1.5)	225 (1.6)
New Mexico	206 (2.0)	208 (2.0)	218 (1.8)	215 (1.7)	220 (1.5)	219 (1.1)
New York	219 (1.5)	211 (1.7)	226 (1.7)	215 (2.2)	218 (1.3)	218 (1.7)
North Carolina	207 (1.4)	209 (1.5)	217 (1.3)	214 (1.8)	214 (1.7)	217 (1.8)
North Dakota	226 (1.1)	222 (1.1)	237 (1.6)	232 (1.3)	229 (1.4)	230 (1.4)
Ohio	216 (1.4)	213 (1.7)	226 (1.8)	219 (1.7)	221 (1.3)	221 (1.6)
Oklahoma	217 (1.2)	216 (1.6)	226 (1.7)	221 (1.5)	221 (1.7)	219 (1.5)
Pennsylvania	222 (1.9)	220 (1.8)	231 (2.0)	226 (1.8)	224 (1.5)	223 (1.3)
Rhode Island	213 (2.1)	211 (1.9)	220 (2.1)	217 (1.9)	216 (1.9)	217 (1.6)
South Carolina	208 (1.5)	207 (1.2)	219 (1.8)	216 (1.6)	214 (1.4)	215 (1.3)
Tennessee	207 (1.7)	207 (1.7)	214 (1.6)	212 (1.6)	209 (1.9)	212 (1.7)
Texas	215 (1.6)	212 (1.6)	222 (2.3)	218 (1.8)	219 (1.8)	220 (1.4)
Utah	220 (1.5)	219 (1.4)	231 (1.4)	228 (1.5)	225 (1.1)	229 (1.4)
Virginia	218 (1.8)	215 (1.8)	227 (1.8)	222 (1.6)	222 (1.6)	221 (1.5)
West Virginia	211 (1.8)	209 (1.2)	226 (1.7)	219 (1.2)	216 (1.3)	218 (1.2)
Wisconsin	226 (1.7)	224 (1.3)	237 (1.5)	230 (1.5)	228 (1.5)	228 (1.2)
Wyoming	223 (1.4)	220 (1.2)	232 (1.4)	227 (1.4)	228 (1.3)	227 (1.5)
TERRITORY						
Guam	185 (1.5)	191 (1.3)	190 (1.5)	193 (1.8)	199 (1.5)	204 (1.8)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three.

TABLE 4.9 | Average Proficiency in Mathematics Content Areas by Gender (continued)

PUBLIC SCHOOLS	Grade 4 - 1992					
	Data Analysis, Statistics, and Probability		Algebra and Functions		Estimation	
	Male	Female	Male	Female	Male	Female
NATION	219 (1.1)	218 (1.3)	215 (1.1)	216 (1.6)	210 (1.9)	203 (2.4)
Northeast	224 (2.7)	221 (2.7)	223 (2.4)	221 (3.2)	209 (5.8)!	200 (8.5)!
Southeast	210 (2.0)	211 (3.0)	205 (1.8)	208 (3.1)	197 (4.2)	192 (4.1)
Central	225 (2.5)	221 (2.7)	221 (2.8)	219 (2.7)	217 (4.6)	208 (6.0)
West	216 (1.9)	218 (2.4)	214 (2.2)	217 (2.4)	217 (3.5)	209 (4.3)
STATES						
Alabama	208 (2.1)	210 (1.7)	203 (2.1)	205 (1.8)	201 (2.1)	194 (1.9)
Arizona	214 (1.7)	214 (1.5)	214 (1.9)	211 (1.9)	208 (1.8)	201 (1.8)
Arkansas	210 (1.4)	211 (1.5)	206 (1.4)	206 (1.1)	201 (2.1)	192 (1.7)
California	208 (2.0)	203 (1.6)	207 (2.4)	209 (2.2)	206 (2.0)	199 (1.9)
Colorado	219 (1.4)	220 (1.7)	219 (1.7)	216 (1.6)	217 (1.2)	208 (1.8)
Connecticut	225 (2.0)	225 (1.7)	226 (1.9)	224 (1.7)	223 (1.7)	211 (1.6)
Delaware	219 (2.0)	220 (1.9)	217 (1.6)	212 (2.3)	206 (2.1)	199 (1.7)
Dist. Columbia	189 (1.3)	189 (1.4)	192 (1.3)	190 (1.2)	177 (1.5)	165 (1.4)
Florida	213 (1.8)	215 (1.7)	213 (2.8)	209 (2.2)	205 (2.2)	196 (1.9)
Georgia	217 (1.6)	220 (1.6)	212 (3.0)	215 (2.6)	202 (1.9)	196 (1.9)
Hawaii	211 (1.9)	213 (1.6)	208 (2.2)	212 (1.6)	199 (2.1)	198 (1.6)
Idaho	221 (1.3)	218 (1.3)	217 (1.5)	217 (1.3)	218 (1.3)	206 (1.5)
Indiana	223 (1.7)	221 (1.4)	220 (2.0)	216 (2.1)	214 (1.9)	205 (1.7)
Iowa	230 (1.3)	230 (1.4)	225 (1.5)	227 (1.6)	227 (1.6)	214 (1.7)
Kentucky	214 (1.7)	216 (1.5)	211 (1.7)	214 (1.9)	210 (1.7)	201 (1.4)
Louisiana	203 (1.9)	204 (2.0)	201 (2.4)	200 (2.0)	193 (2.0)	183 (1.8)
Maine	231 (1.3)	232 (1.6)	228 (2.1)	228 (2.2)	224 (2.1)	216 (1.8)
Maryland	218 (1.8)	217 (1.7)	216 (2.2)	215 (2.0)	205 (1.9)	194 (1.8)
Massachusetts	227 (1.9)	223 (1.7)	224 (2.0)	220 (1.6)	222 (1.5)	211 (1.6)
Michigan	221 (2.4)	216 (2.1)	220 (2.5)	212 (2.5)	215 (2.3)	202 (2.4)
Minnesota	227 (1.4)	227 (1.5)	224 (1.4)	225 (1.3)	226 (1.7)	220 (1.5)
Mississippi	197 (2.1)	201 (1.5)	193 (1.4)	197 (1.7)	190 (1.7)	186 (1.9)
Missouri	223 (1.6)	224 (1.4)	220 (1.7)	220 (1.5)	214 (2.0)	207 (1.6)
Nebraska	226 (2.0)	223 (1.7)	220 (1.8)	220 (2.3)	221 (1.5)	209 (2.1)
New Hampshire	228 (1.9)	229 (1.6)	227 (1.9)	226 (1.7)	226 (2.2)	217 (1.6)
New Jersey	225 (2.0)	225 (1.8)	225 (2.1)	223 (2.5)	217 (2.3)	209 (1.8)
New Mexico	213 (1.8)	214 (1.9)	210 (2.3)	210 (2.1)	207 (2.0)	200 (1.9)
New York	223 (1.6)	218 (2.0)	218 (2.0)	212 (1.9)	211 (2.1)	196 (2.1)
North Carolina	212 (1.3)	215 (1.6)	209 (1.7)	211 (1.9)	201 (1.7)	195 (1.7)
North Dakota	230 (1.1)	228 (1.8)	226 (1.3)	224 (1.6)	227 (1.6)	216 (1.6)
Ohio	219 (1.3)	218 (1.9)	217 (1.6)	214 (1.6)	216 (1.5)	203 (1.9)
Oklahoma	222 (2.0)	220 (1.7)	218 (1.7)	217 (1.5)	216 (2.0)	206 (1.7)
Pennsylvania	224 (1.9)	222 (1.9)	221 (1.8)	221 (1.8)	216 (1.9)	208 (1.9)
Rhode Island	214 (1.8)	212 (2.0)	213 (2.4)	211 (1.8)	210 (2.2)	201 (1.8)
South Carolina	210 (1.7)	212 (1.6)	206 (2.2)	207 (1.6)	200 (1.9)	190 (1.8)
Tennessee	210 (1.8)	212 (1.8)	208 (2.0)	209 (2.0)	203 (1.6)	196 (1.9)
Texas	218 (1.8)	218 (1.6)	218 (1.5)	215 (1.8)	205 (2.0)	194 (1.7)
Utah	221 (1.6)	221 (1.3)	219 (1.5)	222 (1.7)	216 (1.2)	211 (1.4)
Virginia	223 (2.0)	224 (1.4)	218 (2.1)	215 (1.6)	211 (2.0)	200 (1.6)
West Virginia	215 (1.4)	214 (1.4)	211 (1.7)	210 (1.5)	208 (1.7)	200 (1.8)
Wisconsin	230 (1.5)	228 (1.3)	225 (1.5)	225 (1.6)	223 (1.5)	215 (2.4)
Wyoming	225 (1.5)	224 (1.3)	224 (1.8)	219 (1.5)	221 (1.4)	212 (1.4)
TERRITORY						
Guam	186 (1.3)	193 (1.3)	190 (1.9)	194 (1.6)	175 (1.4)	170 (1.5)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 4.9 | Average Proficiency in Mathematics Content Areas by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Numbers and Operations		Measurement		Geometry	
	Male	Female	Male	Female	Male	Female
NATION	269 (1.1)	271 (1.1)	266 (1.4)	262 (1.7)	262 (1.2)	262 (1.2)
Northeast	270 (2.7)	272 (3.2)	267 (3.5)	262 (4.8)	263 (3.0)	262 (3.7)
Southeast	262 (1.7)	264 (1.5)	255 (2.2)	252 (1.9)	253 (1.6)	254 (1.6)
Central	276 (2.9)	278 (2.3)	273 (3.4)	270 (3.3)	268 (2.7)	269 (2.0)
West	269 (2.4)	272 (2.1)	268 (3.3)	265 (3.3)	262 (2.6)	264 (2.4)
STATES						
Alabama	259 (1.6)	257 (1.7)	249 (2.6)	240 (2.6)	246 (2.2)	244 (2.1)
Arizona	269 (1.2)	269 (1.4) >	266 (2.7)	262 (2.4) >	261 (1.4)	259 (1.2) >
Arkansas	261 (1.6)	263 (1.5)	255 (1.7)	248 (1.7)	252 (1.7)	249 (1.9)
California	262 (1.8)	265 (1.9)	259 (2.5)	258 (2.2) >	259 (2.0)	259 (2.3)
Colorado	274 (1.2)	272 (1.5)	277 (2.0) >	268 (1.6)	270 (1.3)	267 (1.3)
Connecticut	277 (1.5)	277 (1.4)	279 (2.1)	271 (2.3)	269 (1.4)	267 (1.3)
Delaware	267 (1.5)	267 (1.6)	262 (1.9)	255 (1.9)	259 (1.6)	255 (1.4)
Dist. Columbia	241 (1.3)	244 (1.4)	224 (2.7)	219 (2.1)	229 (1.6)	234 (1.6)
Florida	263 (1.6)	264 (1.7)	258 (2.1)	251 (2.6)	256 (1.6)	254 (1.7)
Georgia	265 (1.5)	264 (1.1)	258 (2.2)	248 (2.4)	255 (1.8)	251 (1.5)
Hawaii	257 (1.2)	265 (1.3)	254 (1.5)	255 (1.7)	255 (1.5) >	259 (1.7)
Idaho	278 (1.2)	275 (0.9)	279 (2.0) >	272 (1.4)	273 (1.3)	269 (1.1)
Indiana	274 (1.5)	270 (1.4)	274 (2.3)	264 (1.7)	269 (1.3)	264 (1.3)
Iowa	286 (1.1)	284 (1.2)	289 (1.8) >	286 (1.8) »	279 (1.6)	276 (1.4)
Kentucky	267 (1.2)	266 (1.6) >	264 (1.7)	254 (2.0)	258 (1.3)	254 (1.5)
Louisiana	257 (1.5)	256 (1.9)	246 (2.1)	238 (2.5)	247 (1.7)	242 (2.0)
Maine	280 (1.5)	280 (1.3)	284 (1.8)	279 (1.8)	274 (1.2)	274 (1.1)
Maryland	270 (1.6)	267 (1.6)	264 (2.1)	258 (2.6)	259 (1.8)	259 (1.6)
Massachusetts	276 (1.6)	276 (1.3)	274 (2.2)	266 (1.5)	268 (1.6)	265 (1.1)
Michigan	272 (1.5)	268 (1.5)	270 (2.5)	262 (2.3)	264 (1.8)	259 (1.5)
Minnesota	282 (1.6)	282 (1.0)	285 (1.8) »	285 (1.8) »	278 (1.6)	277 (1.2) >
Mississippi	256 (1.6)	256 (1.7)	243 (2.6)	230 (2.2)	241 (1.6)	237 (1.4)
Missouri	272 (1.7)	272 (1.3)	274 (2.2)	268 (1.9)	269 (1.7)	264 (1.5)
Nebraska	279 (1.4)	279 (1.4)	281 (2.3)	275 (2.0)	274 (1.4)	273 (1.6)
New Hampshire	280 (1.3) >	280 (1.1) >	283 (2.5) >	278 (1.8)	273 (1.3)	274 (1.3)
New Jersey	279 (2.1)	274 (1.6)	274 (2.3)	263 (2.4)	269 (2.0)	261 (1.9)
New Mexico	264 (1.4)	262 (1.1) >	261 (2.7)	254 (1.7) >	259 (1.6)	253 (1.1)
New York	271 (2.3)	270 (2.1)	263 (2.9)	261 (2.5) >	262 (2.8)	260 (2.5)
North Carolina	262 (1.5) >	261 (1.4)	257 (2.0) »	250 (2.2) »	256 (1.5) >	253 (1.6)
North Dakota	288 (1.4)	284 (1.4)	289 (1.9)	281 (2.5)	277 (1.6)	276 (1.5)
Ohio	273 (1.9)	271 (1.8)	269 (2.6)	262 (2.9)	264 (1.6)	260 (1.4)
Oklahoma	272 (1.4)	271 (1.8)	269 (2.7)	262 (2.7)	265 (1.6)	260 (1.7)
Pennsylvania	276 (1.8)	271 (1.7)	276 (2.0)	266 (2.4)	267 (1.6)	263 (1.6)
Rhode Island	268 (1.0)	270 (1.1) »	264 (1.5)	262 (1.4) »	260 (1.2)	259 (1.1)
South Carolina	265 (1.4)	266 (1.0)	259 (2.0)	254 (1.6)	257 (1.6)	255 (1.3)
Tennessee	265 (1.7)	263 (1.5)	259 (2.8)	248 (2.2)	255 (1.8)	249 (1.7)
Texas	269 (1.3)	264 (1.8)	265 (1.8) >	255 (2.3)	265 (1.6)	258 (2.0)
Utah	277 (1.0)	275 (1.0)	278 (1.6)	271 (1.6)	271 (1.3)	268 (1.4)
Virginia	272 (1.5)	273 (1.3) >	269 (2.3)	261 (1.7)	261 (1.8)	261 (1.4)
West Virginia	262 (1.3)	263 (1.4)	260 (1.6)	252 (2.2)	256 (1.4)	253 (1.2)
Wisconsin	280 (1.7)	279 (1.7)	281 (2.1)	278 (2.3)	274 (2.0)	271 (1.7)
Wyoming	275 (1.1)	277 (1.3) >	279 (1.7)	276 (1.6) »	273 (1.1)	271 (1.1)
TERRITORIES						
Guam	237 (1.7)	243 (1.8)	228 (2.1)	228 (2.0)	239 (1.5)	240 (1.9)
Virgin Islands	230 (1.3)	233 (1.6)	213 (2.1)	208 (2.2)	223 (1.6)	221 (1.1)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 4.9 | Average Proficiency in Mathematics Content Areas by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Data Analysis, Statistics, and Probability		Algebra and Functions		Estimation	
	Male	Female	Male	Female	Male	Female
NATION	266 (1.4)	267 (1.3)	264 (1.3)	267 (1.4)	272 (1.7)	266 (1.5)
Northeast	268 (3.5)	269 (4.0)	265 (2.7)	268 (3.3)	271 (5.5)	265 (5.4)
Southeast	258 (2.0)	258 (2.1)	257 (1.9)	261 (1.7)	268 (2.9)	260 (3.2)
Central	273 (3.2)	275 (2.9)	271 (3.2)	274 (2.8)	277 (3.0)	271 (3.1)
West	266 (3.3)	269 (2.3)	263 (3.0)	268 (2.8)	272 (2.3)	267 (2.4)
STATES						
Alabama	253 (2.2)	247 (2.4)	251 (2.3)	254 (2.2)	262 (1.3)	257 (1.5)
Arizona	265 (1.9)	264 (2.1) >	263 (1.8)	264 (1.5) >	269 (1.2)	268 (1.3)
Arkansas	255 (2.1)	253 (1.5)	254 (1.8)	256 (1.6)	264 (1.5)	262 (1.2)
California	255 (2.4)	262 (2.4) >	257 (2.5)	259 (2.4)	263 (1.6)	263 (1.7)
Colorado	275 (1.4)	272 (1.7)	271 (1.3)	270 (1.3)	275 (1.0)	270 (1.0)
Connecticut	275 (1.8)	273 (1.9)	271 (1.9)	270 (1.6)	277 (1.2)	273 (1.3)
Delaware	262 (2.4)	262 (2.0)	262 (2.1)	263 (1.2)	265 (1.3)	263 (1.1)
Dist. Columbia	228 (1.5)	230 (2.0)	235 (1.9)	239 (1.9)	240 (1.0)	242 (1.2)
Florida	258 (1.8)	259 (2.1)	259 (1.8)	261 (2.1)	264 (1.2)	264 (1.5)
Georgia	259 (2.0)	258 (1.6)	259 (1.8)	258 (1.4)	265 (1.2)	262 (1.0)
Hawaii	246 (1.7)	253 (2.1)	252 (1.4) >	261 (1.6) »	259 (1.0)	262 (1.1)
Idaho	275 (1.3)	273 (1.4)	275 (1.5) >	272 (1.2)	277 (1.0)	272 (0.8)
Indiana	274 (1.5)	272 (2.2)	267 (1.6)	266 (1.6)	274 (1.0)	268 (1.1)
Iowa	286 (1.5)	283 (1.9)	280 (1.6)	279 (1.5)	284 (0.9)	280 (1.2)
Kentucky	264 (2.2)	260 (2.2)	259 (1.8)	262 (1.6)	267 (1.1)	264 (1.2)
Louisiana	251 (2.1)	245 (2.2)	250 (1.8)	249 (2.4)	259 (1.4)	257 (1.6)
Maine	282 (1.7)	283 (1.7)	272 (1.6)	276 (1.4)	277 (1.2)	273 (1.2)
Maryland	268 (1.7)	265 (1.7)	264 (1.9)	264 (2.1)	266 (1.5)	262 (1.3)
Massachusetts	275 (2.3)	272 (1.7)	271 (1.8)	272 (1.7)	277 (1.3)	272 (1.1)
Michigan	270 (1.6)	265 (1.8)	268 (2.1)	265 (1.9)	270 (1.4)	266 (1.4)
Minnesota	284 (1.8)	284 (1.7)	280 (2.0) >	283 (1.5) »	284 (1.1)	283 (1.0)
Mississippi	244 (2.4)	243 (2.0)	244 (1.8)	245 (2.0)	260 (1.4)	257 (1.0)
Missouri	273 (1.8)	270 (2.0)	270 (1.4)	270 (2.0)	273 (1.2)	269 (1.3)
Nebraska	280 (2.0)	276 (1.9)	275 (1.5)	276 (2.2)	279 (1.3)	275 (1.2)
New Hampshire	282 (1.6) >	280 (1.8)	274 (1.3)	275 (1.2)	278 (1.2)	275 (1.0)
New Jersey	275 (2.3)	267 (2.3)	274 (1.8) >	270 (2.0)	277 (1.3)	271 (1.6)
New Mexico	259 (1.9)	257 (1.6) >	258 (1.5)	256 (1.3)	267 (1.3)	263 (1.0)
New York	270 (3.0)	265 (3.3)	265 (2.5)	264 (2.6)	267 (2.0)	265 (1.9)
North Carolina	260 (1.7) »	256 (1.6)	258 (1.6) »	259 (1.7)	264 (1.3)	261 (1.1)
North Dakota	287 (1.7)	284 (1.8)	280 (1.4)	278 (1.4)	285 (1.1)	281 (1.2)
Ohio	271 (2.3)	268 (3.0)	267 (1.9)	266 (2.3)	271 (1.5)	268 (1.4)
Oklahoma	270 (1.8)	268 (2.1)	267 (1.5)	267 (1.8)	273 (1.1)	269 (1.1)
Pennsylvania	275 (2.0)	270 (2.2)	271 (1.7)	269 (1.8)	275 (1.5)	269 (1.5)
Rhode Island	267 (1.3) >	264 (1.8) >	265 (1.5)	266 (1.6)	271 (0.9)	267 (0.9)
South Carolina	259 (2.1)	258 (1.3)	258 (1.5)	261 (1.6)	265 (1.2)	263 (1.0)
Tennessee	261 (2.0)	257 (1.9)	258 (1.9)	256 (1.8)	267 (1.8)	262 (1.3)
Texas	266 (2.2)	261 (1.8)	266 (1.5) »	265 (1.7) >	271 (1.1)	264 (1.1)
Utah	277 (1.3)	274 (1.6)	272 (1.0)	273 (1.7)	276 (1.1)	273 (1.1)
Virginia	268 (2.0)	267 (1.4)	266 (1.8)	267 (1.5)	272 (1.4)	270 (1.1)
West Virginia	259 (1.5)	260 (1.5)	255 (1.3)	258 (1.6)	264 (1.0)	262 (1.1)
Wisconsin	281 (2.4)	280 (2.2)	274 (1.9)	276 (1.6)	279 (1.3)	276 (1.2)
Wyoming	275 (1.5)	275 (1.6)	270 (1.5)	273 (1.5)	278 (1.1)	275 (1.1)
TERRITORIES						
Guam	219 (1.9)	224 (2.9) >	232 (1.7)	240 (2.0) »	242 (1.2)	245 (1.8)
Virgin Islands	212 (2.5) >	216 (3.1) »	221 (2.3)	222 (1.2)	232 (1.9)	231 (1.7)

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TABLE 4.9 | Average Proficiency in Mathematics Content Areas by Gender (continued)

	Grade 8 - 1990									
PUBLIC SCHOOLS	**Numbers and Operations**		**Measurement**		**Geometry**		**Data Analysis, Statistics, and Probability**		**Algebra and Functions**	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
NATION	266 (1.6)	266 (1.4)	262 (2.1)	254 (1.6)	260 (1.7)	258 (1.4)	263 (2.0)	262 (1.7)	260 (1.6)	261 (1.4)
Northeast	273 (3.7)	272 (2.8)	271 (5.5)	262 (4.0)	269 (4.5)	267 (3.3)	274 (4.6)	273 (3.7)	267 (4.0)	268 (3.4)
Southeast	258 (3.1)	262 (2.7)	250 (3.4)	246 (2.9)	251 (3.3)	250 (2.7)	252 (3.4)	254 (3.4)	253 (2.9)	257 (2.3)
Central	270 (2.4)	270 (2.4)	267 (3.9)	258 (3.5)	263 (3.0)	260 (3.1)	265 (3.0)	264 (3.0)	262 (2.8)	262 (2.9)
West	264 (3.2)	263 (2.7)	262 (3.7)	252 (3.4)	261 (3.4)	258 (2.3)	262 (4.0)	259 (3.3)	260 (3.0)	259 (3.0)
STATES										
Alabama	259 (1.4)	259 (1.3)	251 (1.7)	244 (1.5)	251 (1.6)	248 (1.5)	253 (2.0)	250 (1.6)	251 (1.7)	253 (1.7)
Arizona	267 (1.5)	262 (1.5)	262 (1.8)	253 (1.8)	260 (1.4)	253 (1.4)	262 (2.5)	256 (1.6)	259 (1.6)	257 (1.8)
Arkansas	262 (1.2)	263 (0.9)	258 (2.0)	250 (1.6)	255 (1.4)	251 (1.2)	255 (1.6)	255 (1.1)	252 (1.5)	254 (1.5)
California	260 (1.6)	259 (1.3)	256 (1.9)	248 (1.7)	258 (1.7)	254 (1.3)	256 (2.3)	253 (1.7)	256 (1.7)	256 (1.6)
Colorado	271 (1.3)	268 (1.3)	269 (1.3)	261 (2.2)	268 (1.1)	264 (1.7)	272 (1.2)	268 (1.6)	266 (1.1)	266 (1.5)
Connecticut	275 (1.3)	272 (1.3)	272 (1.8)	265 (1.9)	268 (1.2)	265 (1.5)	274 (1.7)	269 (1.9)	267 (1.5)	269 (2.0)
Delaware	264 (1.6)	267 (1.4)	260 (2.3)	257 (2.0)	256 (1.8)	256 (1.7)	261 (2.1)	263 (2.0)	256 (1.9)	262 (1.7)
Dist. Columbia	236 (1.5)	241 (0.9)	223 (1.7)	222 (1.5)	227 (1.8)	231 (1.2)	224 (1.7)	223 (1.7)	232 (1.6)	238 (1.2)
Florida	261 (1.6)	260 (1.3)	256 (1.7)	247 (1.9)	254 (1.6)	248 (1.4)	258 (1.9)	253 (1.9)	255 (2.0)	255 (1.8)
Georgia	263 (1.7)	264 (1.5)	256 (2.0)	249 (1.7)	258 (1.8)	255 (1.6)	261 (2.2)	260 (1.7)	257 (1.8)	258 (1.8)
Hawaii	253 (1.0)	260 (1.3)	248 (1.3)	251 (1.4)	249 (1.2)	256 (1.3)	241 (1.6)	245 (1.7)	245 (1.3)	253 (1.4)
Idaho	275 (1.1)	274 (0.9)	272 (1.3)	267 (1.8)	270 (1.3)	267 (1.1)	274 (1.3)	272 (1.0)	269 (1.3)	270 (1.0)
Indiana	273 (1.4)	269 (1.5)	270 (2.4)	259 (2.2)	267 (1.4)	262 (1.3)	272 (1.4)	266 (1.8)	267 (1.5)	264 (1.5)
Iowa	285 (1.2)	280 (1.2)	281 (1.8)	271 (1.9)	277 (1.5)	272 (1.5)	282 (1.4)	277 (1.4)	276 (1.2)	274 (1.5)
Kentucky	262 (1.5)	260 (1.2)	258 (1.7)	249 (1.5)	255 (1.5)	252 (1.4)	260 (1.8)	256 (1.7)	256 (1.7)	257 (1.5)
Louisiana	254 (1.6)	253 (1.3)	246 (2.0)	237 (1.9)	245 (1.6)	241 (1.8)	246 (2.1)	241 (2.0)	246 (1.6)	246 (1.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	265 (1.4)	264 (1.7)	259 (2.0)	253 (2.1)	256 (1.6)	257 (1.8)	262 (1.8)	261 (2.1)	260 (1.6)	264 (1.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	269 (1.4)	268 (1.2)	264 (1.8)	256 (1.5)	262 (1.5)	261 (1.2)	265 (2.1)	264 (1.9)	263 (1.5)	265 (1.4)
Minnesota	279 (1.3)	278 (1.2)	276 (1.6)	268 (1.4)	272 (1.2)	272 (1.3)	279 (1.5)	278 (1.7)	272 (1.5)	275 (1.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	279 (1.4)	279 (1.4)	278 (2.4)	268 (1.8)	274 (1.6)	272 (1.9)	279 (1.5)	277 (1.4)	272 (1.6)	274 (1.5)
New Hampshire	275 (1.1)	274 (1.3)	272 (1.6)	272 (2.7)	270 (1.3)	273 (1.2)	275 (1.4)	275 (1.6)	269 (1.2)	275 (1.4)
New Jersey	276 (1.4)	272 (1.3)	272 (1.6)	262 (2.1)	267 (1.5)	265 (1.4)	273 (2.2)	268 (1.6)	268 (1.5)	269 (1.8)
New Mexico	260 (1.2)	257 (1.0)	260 (2.1)	247 (1.3)	259 (1.3)	254 (1.2)	257 (1.8)	250 (1.4)	258 (1.3)	255 (1.1)
New York	265 (1.6)	263 (1.7)	259 (2.2)	251 (2.6)	261 (1.7)	258 (1.9)	264 (2.3)	261 (1.9)	260 (1.8)	260 (1.6)
North Carolina	254 (1.3)	257 (1.3)	245 (1.8)	240 (1.5)	250 (1.2)	248 (1.4)	247 (1.9)	249 (1.8)	248 (1.6)	254 (1.3)
North Dakota	289 (1.6)	283 (1.8)	285 (2.3)	273 (2.0)	279 (1.7)	276 (1.6)	290 (1.8)	281 (2.0)	276 (1.6)	275 (1.8)
Ohio	271 (1.2)	266 (1.3)	265 (2.1)	254 (1.5)	263 (1.2)	258 (1.5)	269 (1.4)	264 (1.4)	264 (1.3)	261 (1.3)
Oklahoma	270 (1.4)	266 (1.5)	263 (2.2)	253 (2.1)	262 (1.7)	257 (1.5)	267 (2.2)	261 (2.4)	263 (1.5)	262 (1.7)
Pennsylvania	272 (1.8)	268 (1.9)	271 (2.4)	258 (2.1)	266 (1.9)	260 (1.9)	271 (2.1)	264 (2.0)	266 (1.7)	264 (2.0)
Rhode Island	266 (1.1)	263 (1.1)	262 (1.0)	252 (1.1)	257 (1.1)	255 (1.2)	261 (1.2)	257 (1.1)	260 (1.3)	262 (1.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	264 (1.8)	260 (1.3)	257 (2.0)	251 (1.9)	260 (1.8)	256 (1.5)	259 (2.3)	255 (1.8)	257 (1.9)	256 (1.7)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	269 (1.9)	267 (1.3)	264 (2.1)	255 (2.0)	263 (2.2)	259 (1.5)	265 (2.2)	264 (2.3)	264 (2.1)	267 (1.6)
West Virginia	260 (1.5)	260 (1.1)	255 (1.9)	250 (1.5)	255 (1.5)	253 (1.4)	257 (2.2)	256 (1.8)	253 (1.6)	255 (1.5)
Wisconsin	279 (1.5)	277 (1.6)	276 (1.8)	270 (2.0)	273 (1.6)	272 (1.7)	278 (1.8)	276 (2.0)	270 (1.4)	271 (1.6)
Wyoming	278 (0.9)	273 (1.0)	274 (1.2)	265 (1.3)	273 (1.2)	268 (1.1)	276 (1.3)	270 (1.2)	270 (1.2)	270 (1.0)
TERRITORIES										
Guam	239 (1.5)	242 (1.3)	232 (1.6)	226 (1.9)	237 (2.0)	236 (1.2)	215 (2.0)	213 (2.0)	230 (1.6)	230 (1.4)
Virgin Islands	229 (1.6)	228 (1.2)	221 (3.3)	211 (2.1)	224 (1.9)	221 (1.2)	200 (3.0)	193 (2.0)	221 (2.2)	217 (1.9)

Average Achievement in Mathematics Content Areas by Type of Community

TABLE 4.10 Average Proficiency in Mathematics Content Areas by Type of Community, Grades 4, 8, and 12

	Assessment Years	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
Grade 4							
Advantaged Urban	**1992**	235 (2.1)	243 (2.6)	236 (2.2)	238 (2.2)	236 (2.6)	225 (3.9)
	1990	229 (3.0)	238 (3.7)	230 (3.8)	--	230 (3.3)	222 (5.0)
Disadvantaged Urban	**1992**	191 (2.8)	194 (3.6)	196 (2.9)	194 (2.9)	192 (3.1)	174 (5.4)
	1990	194 (3.0)	196 (3.7)	194 (3.2)	--	196 (2.8)	185 (3.9)
Extreme Rural	**1992**	213 (3.6)	222 (4.1)	219 (3.2)	217 (3.8)	213 (3.6)	194 (9.5)
	1990	211 (5.0)	220 (5.8)	214 (4.3)	--	214 (4.7)	199 (4.5)
Other	**1992**	216 (1.0)>	224 (1.0)>	222 (0.9)>	220 (1.1)	218 (1.1)>	212 (1.7)>
	1990	210 (1.3)	218 (1.1)	213 (1.1)	--	214 (1.0)	200 (2.1)
Grade 8							
Advantaged Urban	**1992**	290 (3.3)	290 (4.6)	283 (3.1)	291 (4.3)	289 (3.8)>	286 (1.9)
	1990	283 (2.9)	279 (3.9)	276 (3.5)	284 (3.3)	278 (3.6)	284 (4.0)
Disadvantaged Urban	**1992**	244 (2.5)<	229 (3.5)<	237 (2.6)<	236 (3.3)	240 (2.9)	249 (5.6)
	1990	255 (3.4)	243 (4.7)	248 (3.7)	247 (4.7)	249 (3.7)	257 (2.9)
Extreme Rural	**1992**	272 (4.0)	265 (5.4)	261 (5.2)	269 (6.0)	267 (4.1)>	275 (8.8)
	1990	260 (4.5)	254 (4.7)	255 (4.2)	257 (5.4)	255 (4.1)	256 (4.9)
Other	**1992**	272 (1.0)>	267 (1.5)>	264 (1.1)>	269 (1.3)>	267 (1.3)>	269 (2.0)
	1990	267 (1.7)	258 (2.1)	260 (1.7)	263 (2.2)	261 (1.6)	269 (1.8)
Grade 12							
Advantaged Urban	**1992**	312 (2.6)	316 (3.1)	320 (3.0)	314 (3.0)	319 (2.9)	303 (3.5)
	1990	304 (5.4)	305 (7.4)	308 (6.9)	303 (6.1)	309 (5.9)	300 (6.3)
Disadvantaged Urban	**1992**	280 (2.1)	275 (2.9)	281 (2.7)	278 (2.8)	280 (2.5)	274 (2.9)
	1990	277 (5.2)	274 (6.5)	276 (6.5)	274 (6.6)	278 (5.9)	282 (9.3)
Extreme Rural	**1992**	294 (1.7)	291 (2.3)	293 (2.2)	294 (2.0)	291 (2.3)	288 (2.5)
	1990	292 (2.7)	292 (3.7)	294 (4.2)	296 (3.1)	294 (3.3)	291 (2.9)
Other	**1992**	299 (0.9)>	298 (1.0)>	301 (1.2)>	298 (1.0)	300 (1.1)>	297 (1.4)
	1990	294 (1.2)	294 (1.5)	297 (1.5)	296 (1.4)	297 (1.3)	293 (1.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

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TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community

PUBLIC SCHOOLS	Grade 4 - 1992							
	Numbers and Operations				Measurement			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	239 (3.0)!	191 (2.9)	213 (3.6)	215 (1.1)	246 (3.5)!	194 (3.6)	222 (4.1)	224 (1.0)
Northeast	241 (3.0)!	204 (4.0)!	*** (***)	218 (2.7)	249 (4.4)!	208 (4.2)!	*** (***)	224 (2.5)
Southeast	238 (6.6)!	188 (4.6)!	200 (6.3)!	208 (2.1)	246 (7.2)!	193 (5.3)!	208 (7.1)!	218 (2.2)
Central	233(13.7)!	187 (4.4)!	225 (3.7)!	221 (1.5)	242(15.1)!	188 (4.7)!	236 (4.3)!	231 (1.9)
West	238 (9.7)!	179 (6.7)!	214 (4.0)!	214 (2.2)	244 (8.0)!	175(10.1)!	220 (2.8)!	222 (2.1)
STATES								
Alabama	228 (5.5)!	189 (3.5)!	200 (4.2)!	205 (2.4)	239 (5.9)!	198 (3.4)!	210 (4.3)!	213 (2.1)
Arizona	229 (3.8)!	208 (5.3)!	200 (5.8)!	207 (2.3)	234 (3.5)!	213 (5.9)!	211 (4.8)!	217 (2.1)
Arkansas	*** (***)	192 (2.8)!	205 (3.0)	206 (1.6)	*** (***)	199 (5.5)!	216 (3.1)	216 (1.9)
California	231 (3.2)!	183 (3.6)	*** (***)	207 (2.4)	235 (3.7)!	186 (4.3)	*** (***)	214 (2.4)
Colorado	229 (1.7)	199 (3.4)!	214 (2.3)!	216 (1.6)	240 (2.1)	209 (2.5)!	226 (3.0)!	224 (1.7)
Connecticut	237 (2.5)!	193 (4.2)!	*** (***)	228 (1.7)	243 (3.2)!	199 (3.4)!	*** (***)	237 (1.4)
Delaware	215 (4.3)	203 (5.3)	211 (1.0)	217 (1.2)	222 (5.3)	210 (5.7)	220 (1.8)	222 (1.3)
Dist. Columbia	209 (1.9)	183 (1.1)	*** (***)	192 (1.7)	213 (1.8)	187 (1.2)	*** (***)	196 (2.9)
Florida	229 (2.9)!	189 (3.1)	203 (6.7)!	210 (1.8)	237 (4.1)!	197 (3.7)	215 (7.3)!	221 (1.7)
Georgia	235 (2.8)!	192 (3.3)!	211 (3.4)!	211 (2.1)	246 (2.5)!	198 (4.4)!	221 (2.6)!	219 (2.0)
Hawaii	225 (4.1)!	192 (4.1)!	206 (3.5)!	211 (1.8)	232 (4.7)!	194 (3.9)!	208 (7.5)!	217 (1.8)
Idaho	230 (2.5)!	*** (***)	214 (1.8)	216 (1.8)	244 (1.6)!	*** (***)	226 (1.4)	226 (1.6)
Indiana	233 (2.3)!	193 (3.7)!	219 (2.6)!	216 (1.6)	241 (2.9)!	206 (4.7)!	229 (2.0)!	227 (1.6)
Iowa	239 (3.4)!	218 (5.3)!	227 (1.6)	227 (2.2)	244 (2.5)!	218 (5.3)!	235 (1.7)	235 (2.2)
Kentucky	234 (2.5)!	206 (4.7)!	211 (1.6)	210 (1.9)	232 (3.6)!	211 (3.8)!	220 (1.8)	217 (1.7)
Louisiana	224 (3.6)!	182 (3.8)	200 (4.3)!	202 (2.1)	233 (3.9)!	188 (5.3)	214 (5.6)!	211 (2.2)
Maine	*** (***)	*** (***)	227 (3.0)!	228 (1.7)	*** (***)	*** (***)	236 (3.5)!	237 (1.9)
Maryland	229 (4.0)	189 (5.9)!	219 (3.5)!	213 (1.6)	235 (3.4)	191 (7.1)!	229 (2.6)!	220 (2.0)
Massachusetts	241 (3.2)!	198 (2.9)	*** (***)	227 (1.6)	247 (3.6)!	201 (4.6)	*** (***)	234 (1.9)
Michigan	238 (3.6)!	185 (5.2)!	215 (3.4)!	221 (2.1)	248 (4.6)!	195 (6.4)!	229 (3.7)!	231 (1.6)
Minnesota	234 (4.3)!	*** (***)	223 (1.9)	224 (1.8)	245 (4.1)!	*** (***)	233 (1.7)	232 (1.9)
Mississippi	*** (***)	188 (4.8)!	203 (5.2)	198 (1.5)	*** (***)	195 (3.4)!	209 (5.6)	205 (1.6)
Missouri	235 (4.6)!	190 (4.2)!	218 (2.1)	219 (1.8)	249 (4.9)!	191 (6.3)!	229 (1.8)	228 (2.0)
Nebraska	236 (2.3)!	204 (3.8)!	222 (3.2)	220 (1.9)	241 (3.8)!	207 (4.4)!	231 (2.9)	229 (2.3)
New Hampshire	232 (3.4)!	*** (***)	229 (5.0)!	226 (1.5)	242 (3.6)!	*** (***)	235 (4.2)!	233 (1.8)
New Jersey	241 (2.1)	197 (4.3)!	*** (***)	227 (2.0)	249 (1.9)	196 (5.8)!	*** (***)	233 (2.0)
New Mexico	228 (4.2)!	193 (4.5)!	196 (5.6)!	206 (1.9)	233 (3.1)!	201 (4.9)!	206 (8.3)!	216 (1.9)
New York	231 (2.9)!	197 (2.7)	*** (***)	219 (2.7)	233 (4.8)!	200 (3.2)	*** (***)	226 (3.4)
North Carolina	231 (2.3)!	198 (7.4)!	205 (3.3)!	208 (1.5)	236 (2.1)!	203 (6.7)!	213 (2.9)!	215 (1.6)
North Dakota	235 (2.7)!	*** (***)	223 (1.4)	222 (1.3)	240 (4.7)!	*** (***)	234 (1.8)	234 (1.5)
Ohio	233 (2.4)!	193 (3.7)	212 (2.8)!	218 (1.9)	242 (2.8)!	200 (4.3)	222 (2.7)!	227 (2.0)
Oklahoma	228 (4.8)!	212 (3.8)!	218 (2.4)	216 (1.6)	233 (4.2)!	213 (5.0)!	226 (2.5)	225 (2.0)
Pennsylvania	236 (5.2)!	194 (4.5)	227 (1.9)!	224 (1.7)	243 (5.0)!	196 (4.0)	238 (2.1)!	232 (1.8)
Rhode Island	234 (3.2)!	191 (3.1)!	*** (***)	217 (2.2)	244 (3.0)!	192 (3.3)!	*** (***)	223 (2.0)
South Carolina	227 (3.7)!	192 (3.1)!	201 (3.1)!	209 (1.6)	235 (5.5)!	199 (5.5)!	212 (3.4)!	218 (1.8)
Tennessee	227 (5.8)!	186 (3.8)!	204 (4.4)!	210 (1.7)	230 (4.5)!	191 (4.5)!	211 (4.8)!	215 (1.6)
Texas	239 (3.1)!	207 (4.3)!	219 (3.3)!	210 (2.0)	246 (4.3)!	208 (4.6)!	229 (3.4)!	218 (2.3)
Utah	231 (2.6)	203 (5.7)!	215 (3.9)!	219 (1.5)	239 (2.4)	213 (5.6)!	227 (3.4)!	229 (1.7)
Virginia	231 (3.9)!	197 (3.1)!	209 (2.6)!	217 (2.5)	242 (3.6)!	204 (3.9)!	220 (3.0)!	224 (2.4)
West Virginia	*** (***)	204 (4.1)!	209 (2.8)!	210 (1.5)	*** (***)	217 (3.8)!	221 (2.4)!	223 (1.4)
Wisconsin	242 (4.8)!	203 (4.8)!	227 (2.4)	226 (1.8)	248 (4.2)!	211 (5.5)!	236 (1.7)	235 (1.4)
Wyoming	228 (4.2)!	210 (2.2)!	227 (2.3)	220 (1.5)	235 (4.0)!	220 (5.1)!	234 (2.6)	230 (1.7)
TERRITORY								
Guam	*** (***)	*** (***)	180 (2.4)	192 (1.3)	*** (***)	*** (***)	183 (3.1)	196 (1.2)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 4 - 1992							
	Geometry				Data Analysis, Statistics, and Probability			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	238 (3.1)!	196 (2.9)	219 (3.2)	222 (1.0)	241 (3.2)!	194 (3.0)	217 (3.9)	219 (1.3)
Northeast	241 (3.2)!	207 (2.8)!	*** (***)	223 (2.5)	242 (3.9)!	206 (3.7)!	*** (***)	220 (2.9)
Southeast	239 (5.1)!	193 (5.3)!	206 (4.4)!	216 (2.3)	241 (6.3)!	192 (4.0)!	205 (7.2)!	213 (2.2)
Central	231(12.5)!	194 (4.5)!	229 (4.8)!	226 (1.6)	238(11.9)!	189 (4.5)!	229 (2.8)!	225 (2.1)
West	236 (9.5)!	186 (7.4)!	222 (3.4)!	222 (1.6)	239 (9.9)!	181 (8.3)!	216 (4.6)!	218 (2.2)
STATES								
Alabama	232 (4.2)!	198 (3.7)!	206 (3.0)!	209 (2.0)	234 (4.5)!	193 (3.2)!	207 (4.3)!	210 (2.5)
Arizona	234 (3.7)!	213 (4.4)!	213 (5.3)!	217 (1.8)	226 (3.4)!	207 (6.5)!	208 (5.1)!	213 (2.1)
Arkansas	*** (***)	200 (3.1)!	210 (2.8)	214 (1.8)	*** (***)	194 (4.2)!	211 (3.0)	212 (1.5)
California	235 (2.4)!	197 (3.5)	*** (***)	214 (2.4)	228 (3.3)!	186 (4.1)	*** (***)	209 (2.3)
Colorado	239 (2.4)	214 (2.8)!	223 (2.4)!	227 (1.3)	232 (2.4)	202 (3.4)!	220 (3.2)!	220 (1.6)
Connecticut	240 (2.6)!	204 (4.2)!	*** (***)	234 (1.5)	237 (2.6)!	194 (5.2)!	*** (***)	231 (2.0)
Delaware	220 (4.1)	213 (5.4)	217 (1.5)	221 (0.9)	222 (5.2)	211 (5.0)	217 (1.4)	221 (1.6)
Dist. Columbia	220 (2.1)	192 (1.2)	*** (***)	199 (1.7)	212 (3.0)	182 (2.0)	*** (***)	193 (2.2)
Florida	228 (3.2)!	200 (2.0)	208 (4.2)!	218 (1.4)	233 (2.6)!	195 (3.1)	209 (5.6)!	216 (1.5)
Georgia	237 (3.1)!	200 (3.1)!	216 (2.6)!	217 (1.6)	242 (2.6)!	199 (3.8)!	219 (2.4)!	218 (2.0)
Hawaii	231 (2.9)!	195 (2.9)!	211 (3.0)!	219 (1.5)	226 (3.3)!	197 (4.7)!	207 (4.7)!	212 (1.9)
Idaho	239 (3.4)!	*** (***)	226 (1.7)	224 (1.7)	233 (3.3)!	*** (***)	218 (1.8)	219 (1.6)
Indiana	234 (2.8)!	206 (3.1)!	225 (1.8)!	223 (1.5)	236 (2.5)!	201 (5.4)!	225 (2.1)!	223 (1.5)
Iowa	240 (2.5)!	221 (6.3)!	229 (1.7)	229 (1.8)	240 (2.3)!	222 (4.4)!	230 (1.5)	230 (1.7)
Kentucky	235 (5.3)!	213 (3.6)!	216 (1.8)	213 (1.6)	237 (2.2)!	208 (5.2)!	217 (1.7)	212 (1.9)
Louisiana	226 (3.3)!	189 (4.7)	208 (5.3)!	209 (2.2)	230 (4.1)!	181 (5.3)	207 (4.2)!	207 (2.3)
Maine	*** (***)	*** (***)	237 (3.4)!	236 (1.2)	*** (***)	*** (***)	231 (3.0)!	232 (1.9)
Maryland	235 (4.0)	194 (5.3)!	220 (6.0)!	219 (1.6)	233 (4.9)	192 (6.0)!	224 (4.7)!	217 (1.9)
Massachusetts	244 (3.1)!	207 (2.6)	*** (***)	231 (1.6)	243 (2.7)!	199 (3.1)	*** (***)	229 (1.8)
Michigan	239 (3.3)!	197 (5.2)!	223 (4.1)!	227 (1.7)	239 (3.3)!	188 (5.9)!	221 (4.1)!	224 (1.8)
Minnesota	242 (2.9)!	*** (***)	228 (1.3)	228 (1.7)	238 (5.5)!	*** (***)	227 (1.7)	226 (2.1)
Mississippi	*** (***)	191 (3.3)!	205 (4.5)	202 (1.1)	*** (***)	191 (5.4)!	202 (5.6)	199 (1.4)
Missouri	237 (3.8)!	197 (4.3)!	225 (2.1)	227 (1.5)	237 (4.1)!	195 (4.3)!	226 (2.3)	225 (2.0)
Nebraska	240 (2.4)!	212 (2.8)!	228 (2.6)	229 (1.6)	236 (2.6)!	205 (4.1)!	227 (3.6)	223 (2.3)
New Hampshire	238 (3.2)!	*** (***)	236 (4.0)!	233 (1.4)	234 (3.9)!	*** (***)	236 (5.0)!	228 (1.8)
New Jersey	240 (2.1)	202 (3.4)!	*** (***)	227 (1.7)	241 (2.7)	193 (5.1)!	*** (***)	228 (1.8)
New Mexico	232 (5.9)!	214 (4.6)!	216(10.2)!	218 (1.7)	230 (3.3)!	197 (4.3)!	208 (4.5)!	212 (2.1)
New York	226 (3.0)!	204 (2.2)	*** (***)	222 (2.4)	236 (4.5)!	202 (3.3)	*** (***)	224 (2.8)
North Carolina	232 (6.3)!	208 (4.7)!	213 (3.9)!	215 (1.9)	238 (6.2)!	198 (7.5)!	210 (2.9)!	213 (1.6)
North Dakota	234 (2.8)!	*** (***)	228 (1.5)	229 (1.5)	237 (2.7)!	*** (***)	229 (1.8)	227 (1.6)
Ohio	240 (3.3)!	204 (3.1)	220 (2.3)!	223 (1.7)	238 (4.1)!	197 (3.5)	220 (2.6)!	222 (1.9)
Oklahoma	232 (3.4)!	213 (5.5)!	218 (2.1)	220 (1.6)	230 (4.3)!	213 (4.9)!	222 (2.9)	222 (1.9)
Pennsylvania	235 (3.4)!	201 (3.2)	228 (1.6)!	226 (1.5)	239 (4.7)!	194 (4.2)	231 (2.0)!	226 (1.6)
Rhode Island	234 (4.9)!	197 (3.4)!	*** (***)	221 (1.8)	233 (3.3)!	188 (3.7)!	*** (***)	219 (1.9)
South Carolina	237 (3.9)!	197 (2.3)!	209 (2.5)!	215 (1.4)	232 (4.0)!	195 (3.2)!	205 (3.4)!	211 (1.9)
Tennessee	228 (3.5)!	195 (4.0)!	203 (6.4)!	213 (1.7)	231 (5.3)!	190 (5.1)!	207 (4.0)!	213 (1.8)
Texas	244 (4.0)!	212 (4.4)!	227 (2.3)!	216 (2.0)	248 (4.5)!	208 (3.6)!	222 (3.3)!	216 (2.0)
Utah	235 (1.7)	214 (2.2)!	227 (3.6)!	226 (1.1)	230 (2.4)	206 (5.1)!	217 (3.6)!	221 (1.6)
Virginia	235 (3.5)!	206 (2.1)!	213 (2.5)!	221 (2.4)	239 (3.3)!	204 (3.2)!	216 (2.3)!	224 (2.3)
West Virginia	*** (***)	216 (3.6)!	215 (2.4)!	216 (1.3)	*** (***)	210 (4.0)!	213 (2.5)!	214 (1.4)
Wisconsin	238 (4.4)!	211 (4.6)!	229 (1.8)	230 (1.3)	245 (4.3)!	208 (4.6)!	231 (1.6)	230 (1.6)
Wyoming	235 (4.1)!	217 (5.6)!	231 (1.8)	227 (1.3)	232 (3.6)!	219 (6.7)!	229 (2.4)	223 (1.3)
TERRITORY								
Guam	*** (***)	*** (***)	196 (3.3)	204 (1.1)	*** (***)	*** (***)	180 (2.5)	194 (1.3)

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TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 4 - 1992							
	Algebra and Functions				Estimation			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	239 (3.4)!	192 (3.1)	213 (3.7)	217 (1.1)	222 (4.6)!	173 (5.7)!	189(10.0)!	211 (2.0)
Northeast	241 (3.9)!	206 (4.3)!	*** (***)	220 (2.6)	*** (***)	*** (***)	*** (***)	206 (6.9)!
Southeast	238 (7.4)!	188 (4.4)!	200 (6.8)!	210 (2.3)	*** (***)	*** (***)	*** (***)	201 (2.2)
Central	235(13.0)!	187 (4.3)!	224 (3.7)!	222 (1.7)	*** (***)	170 (9.4)!	*** (***)	219 (3.4)
West	237 (9.8)!	180 (7.9)!	214 (3.8)!	216 (2.2)	*** (***)	*** (***)	*** (***)	214 (4.9)!
STATES								
Alabama	227 (5.7)!	185 (4.0)!	202 (5.5)!	205 (2.4)	223 (7.1)!	182 (4.2)!	194 (4.9)!	199 (2.6)
Arizona	229 (4.5)!	208 (3.8)!	205 (6.3)!	211 (2.2)	221 (4.9)!	200 (6.1)!	196 (5.3)!	203 (2.5)
Arkansas	*** (***)	191 (2.9)!	206 (2.5)	207 (1.5)	*** (***)	182 (3.6)!	197 (3.6)	198 (2.1)
California	233 (3.6)!	188 (3.1)	*** (***)	210 (2.6)	225 (2.9)!	186 (3.6)	*** (***)	205 (2.3)
Colorado	230 (3.0)	200 (3.6)!	216 (3.9)!	217 (2.1)	226 (2.5)	194 (2.6)!	211 (3.1)!	212 (1.7)
Connecticut	236 (3.1)!	194 (4.5)!	*** (***)	231 (1.6)	229 (2.7)!	183 (4.7)!	*** (***)	224 (1.9)
Delaware	220 (4.2)	206 (4.5)	208 (2.9)	218 (1.5)	205 (3.7)	197 (7.4)	201 (1.5)	205 (1.7)
Dist. Columbia	214 (2.4)	184 (1.2)	*** (***)	196 (1.6)	196 (3.7)	163 (1.2)	*** (***)	174 (2.6)
Florida	230 (6.0)!	192 (4.0)	205 (6.9)!	213 (1.8)	223 (3.5)!	179 (3.0)	198 (8.5)!	202 (1.9)
Georgia	239 (5.1)!	190 (6.2)!	213 (4.2)!	214 (2.4)	225 (4.1)!	176 (4.8)!	204 (3.1)!	200 (2.4)
Hawaii	225 (3.9)!	196 (3.4)!	207 (4.0)!	211 (2.0)	211 (5.1)!	183 (4.2)!	193 (5.5)!	199 (1.9)
Idaho	231 (4.3)!	*** (***)	216 (1.9)	216 (2.0)	229 (3.2)!	*** (***)	210 (1.8)	210 (1.7)
Indiana	233 (3.0)!	199 (4.9)!	222 (2.8)!	218 (2.1)	231 (3.5)!	184 (5.2)!	215 (2.4)!	210 (2.0)
Iowa	242 (3.2)!	219 (4.3)!	224 (1.7)	226 (2.5)	231 (4.0)!	208 (5.1)!	222 (1.6)	221 (2.4)
Kentucky	227 (6.4)!	202 (5.3)!	215 (2.8)	212 (1.9)	226 (8.4)!	197 (5.0)!	207 (1.7)	204 (2.1)
Louisiana	222 (8.3)!	186 (4.4)	200 (4.2)!	203 (2.8)	215 (9.1)!	168 (3.9)	192 (4.8)!	191 (2.5)
Maine	*** (***)	*** (***)	226 (3.1)!	228 (2.3)	*** (***)	*** (***)	218 (4.0)!	220 (2.0)
Maryland	229 (3.5)	191 (6.8)!	219 (6.3)!	216 (1.9)	219 (5.0)	171 (6.1)!	204 (4.3)!	199 (2.1)
Massachusetts	239 (4.3)!	200 (4.1)	*** (***)	226 (1.8)	235 (3.9)!	186 (4.1)	*** (***)	221 (1.9)
Michigan	236 (4.2)!	189 (5.1)!	216 (4.7)!	222 (2.7)	231 (3.7)!	171 (5.9)!	213 (5.1)!	216 (2.1)
Minnesota	232 (4.6)!	*** (***)	224 (2.7)	224 (2.0)	238 (5.0)!	*** (***)	222 (1.9)	221 (2.3)
Mississippi	*** (***)	182 (4.3)!	200 (4.5)	195 (1.5)	*** (***)	181 (6.0)!	189 (5.7)	188 (1.7)
Missouri	239 (5.7)!	196 (5.1)!	220 (2.3)	222 (2.1)	228 (4.8)!	177 (4.2)!	212 (2.5)	213 (2.0)
Nebraska	239 (3.6)!	199 (5.0)!	219 (3.6)	219 (2.3)	230 (1.8)!	194 (6.4)!	216 (2.5)	214 (2.2)
New Hampshire	230 (4.1)!	*** (***)	227 (6.5)!	227 (1.7)	234 (2.8)!	*** (***)	225 (4.1)!	221 (1.6)
New Jersey	239 (2.5)	191 (4.7)!	*** (***)	227 (2.4)	233 (2.0)	171 (5.2)!	*** (***)	217 (1.9)
New Mexico	230 (3.0)!	194 (4.9)!	205(13.0)!	209 (2.1)	223 (7.3)!	188 (4.4)!	191 (6.8)!	202 (2.3)
New York	228 (3.4)!	195 (3.6)	*** (***)	219 (3.2)	223 (3.8)!	183 (3.9)	*** (***)	209 (3.5)
North Carolina	231 (4.8)!	195 (5.6)!	206 (3.0)!	210 (1.6)	228 (3.7)!	186 (8.1)!	194 (3.7)!	197 (1.7)
North Dakota	239 (3.6)!	*** (***)	222 (2.1)	223 (1.8)	229 (4.9)!	*** (***)	221 (2.0)	220 (1.5)
Ohio	234 (2.9)!	193 (3.8)	215 (2.7)!	221 (2.0)	232 (2.1)!	185 (3.0)	209 (2.6)!	214 (2.2)
Oklahoma	228 (7.2)!	212 (5.5)!	218 (3.8)	218 (1.6)	224 (4.4)!	205 (6.1)!	212 (3.2)	211 (1.7)
Pennsylvania	235 (5.4)!	194 (4.1)	227 (3.0)!	224 (1.8)	225 (5.3)!	178 (5.2)	221 (1.9)!	217 (1.9)
Rhode Island	232 (5.0)!	190 (3.9)!	*** (***)	218 (2.2)	225 (3.6)!	182 (4.1)!	*** (***)	212 (2.2)
South Carolina	228 (6.0)!	194 (4.0)!	201 (3.2)!	207 (2.1)	215 (3.8)!	174 (3.8)!	186 (3.9)!	197 (1.8)
Tennessee	222 (6.6)!	190 (3.4)!	205 (2.9)!	211 (2.0)	216 (4.9)!	181 (4.2)!	199 (4.8)!	202 (1.8)
Texas	244 (4.3)!	204 (3.2)!	221 (3.7)!	214 (1.9)	223 (4.6)!	192 (5.1)!	209 (5.4)!	196 (2.7)
Utah	232 (3.0)	213 (5.1)!	218 (3.3)!	220 (1.4)	222 (2.4)	199 (6.3)!	212 (3.2)!	213 (1.4)
Virginia	231 (4.0)!	197 (2.9)!	209 (3.1)!	218 (2.5)	220 (4.5)!	187 (2.7)!	202 (2.5)!	207 (2.4)
West Virginia	*** (***)	208 (2.9)!	208 (2.1)!	211 (1.8)	*** (***)	198 (4.8)!	204 (2.4)!	204 (1.8)
Wisconsin	238 (5.1)!	204 (6.6)!	227 (2.3)	227 (1.7)	232 (4.3)!	198 (6.6)!	222 (1.9)	220 (2.2)
Wyoming	237 (6.2)!	211 (6.4)!	224 (2.8)	221 (1.5)	224 (4.3)!	207 (8.3)!	220 (2.5)	216 (1.5)
TERRITORY								
Guam	*** (***)	*** (***)	184 (3.5)	194 (1.1)	*** (***)	*** (***)	152 (3.2)	177 (0.9)

TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Numbers and Operations				Measurement			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	286 (4.1)!	244 (2.6)	271 (3.9)!	271 (1.1)	287 (6.0)!	229 (3.5)	265 (5.5)!	266 (1.6)
Northeast	292 (5.8)!	240 (3.7)!	*** (***)	271 (2.6)	295 (7.8)!	225 (1.7)!	*** (***)	264 (3.9)
Southeast	273 (2.8)!	245 (5.3)!	261 (3.9)!	265 (1.6)	270 (4.4)!	227 (9.4)!	251 (4.8)!	256 (2.2)
Central	285 (5.7)!	241 (5.9)!	284 (3.0)!	279 (1.8)	289 (8.9)!	224 (8.1)!	284 (3.3)!	274 (2.3)
West	287(11.0)!	251 (4.4)!	269 (3.8)!	271 (2.1)	287(14.5)!	239 (5.9)!	260 (6.0)!	268 (3.4)
STATES								
Alabama	268 (6.8)!	245 (3.5)!	260 (1.5)!	261 (1.9)	258 (8.5)!	225 (7.7)!	249 (2.8)!	247 (3.3)
Arizona	283 (4.0)!	256 (3.6)!	263 (8.9)!	268 (1.7)	287 (5.9)!	242 (5.2)!	252(11.6)!	263 (2.8)
Arkansas	*** (***)	245 (8.2)!	268 (2.7)!	261 (1.5)	*** (***)	230 (8.2)!	256 (3.2)!	251 (1.5)
California	295 (7.0)!	243 (3.7)	*** (***)	267 (1.9)	287 (8.0)!	230 (4.7)	*** (***)	264 (2.8) >
Colorado	285 (2.0)	255 (2.6)!	273 (2.6)!	273 (1.7)	284 (3.1)	252 (3.8)!	276 (3.6)!	272 (2.4) >
Connecticut	286 (4.7)!	249 (3.9)	*** (***)	283 (1.6) »	288 (8.3)!	241 (5.0)	*** (***)	281 (2.4) »
Delaware	*** (***)	*** (***)	267 (1.9)	267 (1.2)	*** (***)	*** (***)	260 (2.7)	258 (1.7)
Dist. Columbia	260 (3.6)	235 (1.2)	*** (***)	257 (2.3) »	243 (5.4)	211 (1.8)	*** (***)	240 (3.5) >
Florida	273 (5.0)!	255 (5.1)!	260 (6.2)!	265 (1.8)	268 (7.7)!	243 (7.4)!	251 (6.9)!	256 (3.0)
Georgia	277 (5.9)!	256 (3.5)!	254 (2.5)!	265 (1.5)	277 (5.8)!	238 (6.4)!	238 (3.4)!	255 (2.6)
Hawaii	258 (2.9) <	245 (2.7)	*** (***)	263 (1.4) >	250 (7.2)	235 (2.8)	*** (***)	258 (1.8) >
Idaho	285 (3.8)!	283 (4.7)!	277 (2.0)	277 (0.8)	293(11.5)!	279 (5.8)!	274 (3.0)	276 (1.8) >
Indiana	288 (5.3)!	248 (1.5)!	271 (2.8)	275 (1.5)	283 (8.0)!	238 (2.7)!	266 (4.7)	273 (1.9)
Iowa	289 (5.0)!	274 (5.7)!	288 (1.5)	283 (1.4)	293 (9.3)!	274 (5.0)!	293 (2.5) »	283 (2.6)
Kentucky	293 (6.3)! >	256 (2.7)!	267 (2.1)! >	267 (1.4)	291 (6.7)! >	245 (5.4)!	260 (2.1)!	260 (1.8)
Louisiana	*** (***)	234 (4.1)	258 (3.3)! >	260 (1.7)	*** (***)	215 (4.1)	251 (4.7)! >	247 (2.2)
Maine	*** (***)	*** (***)	278 (2.1)!	280 (1.4)	*** (***)	*** (***)	279 (3.1)!	282 (2.2)
Maryland	285 (3.2)	248 (7.4)!	*** (***)	271 (2.4)	283 (4.9)	232 (8.2)!	*** (***)	262 (3.4)
Massachusetts	302 (4.1)!	253 (2.5)	*** (***)	281 (1.7)	307 (6.3)!	238 (4.2)	*** (***)	276 (2.5)
Michigan	291 (7.6)!	246 (3.0)	276 (2.3)!	273 (1.3)	295(11.9)!	228 (4.3)	276 (4.3)!	269 (2.2)
Minnesota	289 (6.4)!	*** (***)	282 (2.1)!	282 (1.5)	291 (8.2)!	*** (***)	285 (4.1)!	285 (2.2) >
Mississippi	*** (***)	252 (5.7)!	254 (4.1)!	256 (1.6)	*** (***)	233 (7.0)!	235 (5.6)!	236 (2.4)
Missouri	280 (3.3)!	256 (4.4)!	273 (2.2)!	274 (1.6)	281 (5.0)!	247 (7.0)!	270 (3.1)!	274 (1.8)
Nebraska	*** (***)	254 (4.6)	283 (2.7)	278 (1.3)	*** (***)	246 (9.1)	285 (3.7)	277 (2.1) >
New Hampshire	294 (4.2)!	*** (***)	282 (2.9)!	279 (1.1)	298 (6.3)!	*** (***)	287 (5.5)!	279 (1.9)
New Jersey	299 (4.4)!	247 (3.1)	*** (***)	284 (1.3) »	298 (5.7)!	228 (3.9)	*** (***)	279 (2.1) >
New Mexico	285 (2.9)	253 (3.7)!	263 (6.1)!	263 (1.3) >	290 (4.8)	251 (5.7)!	261(10.5)!	257 (1.8)
New York	296 (3.3)! >	238 (4.2)!	279 (2.6)!	274 (2.5)	233 (4.5)!	217 (6.2)!	277 (4.0)!	267 (3.4)
North Carolina	281(11.8)!	248 (5.2)!	255 (3.5)!	262 (1.5)	285(18.5)!	233 (6.0)!	247 (4.6)!	254 (2.2) >
North Dakota	290 (3.2)!	*** (***)	286 (1.8)	284 (1.4)	283 (2.3)!	*** (***)	287 (3.1)	283 (1.9)
Ohio	294 (5.5)!	253 (3.0)	282 (3.4)!	273 (1.9)	299 (5.2)! »	239 (5.0)	281 (5.7)!	268 (3.1)
Oklahoma	*** (***)	274 (3.4)! »	267 (2.8)!	273 (1.6)	*** (***)	270 (7.8)! >	264 (4.6)!	268 (2.8)
Pennsylvania	290 (4.0)!	250 (4.5)!	279 (3.6)!	278 (1.3) >	293 (8.1)!	240 (6.2)!	279 (6.3)!	276 (2.0) >
Rhode Island	290 (3.4)	250 (1.7)	*** (***)	272 (0.8) »	282 (5.4)	236 (3.7)	*** (***)	268 (1.3) »
South Carolina	281 (3.8)!	254 (5.4)!	275 (2.4)!	265 (1.2)	277 (2.9)!	237 (7.0)!	272 (4.8)!	256 (1.7)
Tennessee	281 (3.1)!	243 (9.1)!	264 (3.4)!	265 (1.6)	278 (6.3)!	218(10.8)!	259 (3.9)!	255 (2.3)
Texas	289 (4.0)!	252 (2.6)!	269 (7.0)!	266 (1.6)	294 (2.8)! »	241 (3.0)!	266 (7.9)!	259 (2.4)
Utah	284 (3.2)	271 (2.2)!	273 (2.1)!	275 (0.9)	287 (3.0)	265 (4.7)!	270 (2.7)!	274 (1.8)
Virginia	286 (2.5)!	257 (3.9)!	265 (4.0)!	271 (1.6)	282 (5.7)!	247 (5.3)!	259 (7.8)!	263 (2.3)
West Virginia	*** (***)	262 (2.2)	262 (2.5)!	263 (1.4)	*** (***)	252 (3.5)	254 (4.0)!	257 (1.9)
Wisconsin	292 (6.8)!	249 (4.5)!	283 (3.4)!	280 (1.5)	296 (5.0)!	236 (6.1)!	284 (3.1)!	279 (2.5)
Wyoming	*** (***)	274 (6.1)!	278 (2.6)!	277 (1.1)	*** (***)	275 (5.7)!	279 (2.7)!	279 (1.3) »
TERRITORIES								
Guam	*** (***)	*** (***)	220 (5.3) «	242 (1.5)	*** (***)	*** (***)	210 (5.6) <	232 (2.1)
Virgin Islands	*** (***)	*** (***)	226 (2.1)	228 (1.5)	*** (***)	*** (***)	205 (3.7)	208 (2.3)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Geometry				Data Analysis, Statistics, and Probability			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	280 (3.8)!	237 (2.7)	261 (5.2)!	263 (1.2)	287 (5.6)!	236 (3.4)	269 (5.9)!	268 (1.4)
Northeast	286 (6.1)!	233 (3.4)!	*** (***)	262 (3.2)	297 (8.2)!	232 (3.3)!	*** (***)	268 (3.4)
Southeast	268 (2.0)!	235 (6.8)!	248 (5.4)!	256 (1.6)	273 (3.7)!	237 (8.5)!	256 (7.5)!	260 (2.1)
Central	280 (5.1)!	236 (5.1)!	275 (6.8)!	271 (1.9)	287 (8.8)!	233 (5.4)!	283 (5.8)!	276 (2.0)
West	279 (8.4)!	245 (4.3)!	259 (5.7)!	263 (2.7)	286(12.7)!	242 (5.9)!	266 (6.7)!	268 (2.7)
STATES								
Alabama	252 (8.7)!	234 (5.1)!	248 (2.4)!	247 (2.8)	264 (8.8)!	233 (5.9)!	253 (3.4)!	254 (2.8)
Arizona	271 (4.7)!	250 (3.4)!	252 (7.1)!	259 (1.7)	283 (3.7)!	251 (6.3)!	252(11.4)!	264 (2.3)
Arkansas	*** (***)	228 (7.1)!	256 (3.1)!	250 (1.6)	*** (***)	231 (8.4)!	261 (3.1)!	254 (1.6)
California	282 (6.3)!	236 (3.5)	*** (***)	263 (2.3)	289 (8.4)!	228 (4.6)	*** (***)	264 (2.4)
Colorado	278 (2.6)	254 (2.7)!	270 (2.8)!	269 (1.7)	288 (3.0)	252 (4.8)!	273 (4.3)!	274 (1.9)
Connecticut	275 (3.9)!	243 (3.7)	*** (***)	273 (1.6)>	285 (5.2)!	236 (4.8)	*** (***)	282 (1.8)»
Delaware	*** (***)	*** (***)	259 (2.6)	257 (1.2)	*** (***)	*** (***)	262 (2.1)	262 (1.4)
Dist. Columbia	252 (3.6)	221 (2.0)	*** (***)	250 (2.3)»	240 (5.3)	221 (1.9)	*** (***)	250 (3.5)»
Florida	264 (4.6)!	246 (5.2)!	253 (4.3)!	256 (1.8)	277 (6.3)!	247 (6.6)!	252 (5.5)!	260 (2.6)
Georgia	268 (6.7)!	239 (5.7)!	240 (2.7)!	255 (2.0)	277 (6.3)!	246 (5.1)!	248 (2.3)!	260 (1.9)
Hawaii	260 (3.1)	241 (2.8)	*** (***)	259 (1.6)	251 (6.9)	233 (3.0)	*** (***)	252 (2.1)
Idaho	286 (4.5)!	274 (5.3)!	271 (1.7)	270 (0.9)	298 (4.2)!	273 (6.3)!	273 (2.5)	274 (1.0)
Indiana	280 (5.3)!	243 (1.9)!	267 (3.2)	269 (1.4)	293 (5.9)!	246 (4.1)!	272 (2.8)	276 (1.8)
Iowa	286(10.2)!	267 (2.7)!	281 (1.4)	275 (1.7)	300 (9.4)!	274 (6.7)!	289 (2.2)	281 (2.0)
Kentucky	275 (6.0)!	250 (3.3)!	256 (2.9)!	256 (1.5)	285 (9.8)!	248 (5.9)!	263 (3.5)!	264 (2.3)
Louisiana	*** (***)	223 (3.9)	249 (4.1)! >	249 (2.0)	*** (***)	225 (4.8)	254 (5.3)! >	251 (2.3)
Maine	*** (***)	*** (***)	273 (2.1)!	274 (1.3)	*** (***)	*** (***)	281 (2.7)!	282 (1.8)
Maryland	279 (3.7)	236 (7.5)!	*** (***)	260 (2.5)	286 (4.0)	238 (8.1)!	*** (***)	268 (3.1)
Massachusetts	292 (6.3)!	244 (3.8)	*** (***)	270 (1.7)	305 (5.8)!	245 (4.6)	*** (***)	279 (2.4)
Michigan	278 (7.6)!	236 (3.9)	269 (2.8)!	264 (1.8)	292 (9.4)!	233 (4.2)	275 (3.8)!	273 (1.8)
Minnesota	288 (4.8)! >	*** (***)	274 (2.3)!	278 (1.6)	291 (5.4)!	*** (***)	281 (2.8)!	284 (2.1)
Mississippi	*** (***)	237 (6.0)!	238 (3.5)!	239 (1.6)	*** (***)	231 (8.0)!	246 (6.3)!	242 (2.0)
Missouri	274 (5.3)!	249 (6.1)!	264 (2.9)!	269 (1.5)	282 (4.2)!	249 (7.0)!	272 (3.5)!	274 (1.9)
Nebraska	*** (***)	255 (3.8)	276 (2.7)	273 (1.6)	*** (***)	244 (4.6)	282 (2.6)	278 (2.3)
New Hampshire	290 (3.7)!	*** (***)	276 (2.8)!	272 (1.3)	300 (3.2)!>	*** (***)	284 (4.2)!	280 (1.5)
New Jersey	287 (4.0)!	233 (3.5)	*** (***)	273 (1.9)	301 (6.1)!	231 (5.1)	*** (***)	280 (2.0)>
New Mexico	275 (4.8)	254 (4.8)!	252 (6.7)!	256 (1.1)	280 (3.9)	249 (5.4)!	257 (9.6)!	259 (1.7)
New York	283 (3.8)!	229 (4.8)!	274 (3.3)!	264 (3.0)	296 (5.0)!	226 (7.8)!	282 (3.8)!	272 (3.8)
North Carolina	277(10.4)!	241 (5.9)!	249 (4.1)!	254 (1.8)	284(13.6)!	241 (7.9)!	251 (4.6)!	258 (1.6)>
North Dakota	279 (2.4)!	*** (***)	275 (2.1)	276 (1.5)	299 (2.7)!	*** (***)	286 (2.1)	283 (1.6)
Ohio	289 (5.0)!	244 (3.3)	269 (4.2)!	264 (2.0)	301 (4.8)!	245 (3.7)	280 (3.4)!	272 (2.6)
Oklahoma	*** (***)	264 (3.4)! >	260 (3.0)!	264 (1.5)	*** (***)	268 (5.5)!	266 (3.5)!	270 (1.9)
Pennsylvania	281 (9.5)!	239 (4.9)!	272 (4.1)!	269 (1.3)	294 (8.4)!	246 (7.0)!	278 (4.9)!	277 (1.8)>
Rhode Island	279 (3.4)	237 (3.1)	*** (***)	262 (1.1)»	292 (4.9)	235 (3.9)	*** (***)	269 (1.5)»
South Carolina	271 (5.0)!	245 (5.7)!	265 (3.7)!	256 (1.4)	282 (4.4)!	242 (6.3)!	263 (3.1)!	258 (1.7)
Tennessee	276 (4.1)!	225 (9.8)!	252 (3.4)!	254 (1.6)	279 (7.9)!	227(12.2)!	260 (3.9)!	261 (1.9)
Texas	291 (3.0)! >	247 (3.7)!	261 (7.2)!	261 (2.0)	291 (4.3)!	242 (3.3)!	260 (8.0)!	264 (2.4)
Utah	278 (3.0)	266 (5.4)!	266 (1.9)!	269 (1.3)	284 (3.4)	270 (2.8)!	272 (3.8)!	275 (1.1)
Virginia	279 (3.3)!	245 (4.0)!	253 (4.0)!	259 (1.7)	293 (4.1)!	250 (4.4)!	258 (4.2)!	265 (1.7)
West Virginia	*** (***)	251 (2.4)	252 (2.7)!	255 (1.3)	*** (***)	255 (3.6)	258 (3.2)!	260 (1.4)
Wisconsin	285 (3.9)!	234 (5.6)!	278 (3.9)!	272 (1.7)	301(13.7)!	239 (4.9)!	284 (3.2)!	280 (1.8)
Wyoming	*** (***)	271 (5.7)!	272 (2.2)!	273 (0.9)	*** (***)	272 (6.0)!	278 (4.2)!	275 (1.4)
TERRITORIES								
Guam	*** (***)	*** (***)	226 (3.2)«	242 (1.4)»	*** (***)	*** (***)	202 (4.0)<	225 (2.1)»
Virgin Islands	*** (***)	*** (***)	215 (3.4)	220 (1.0)	*** (***)	*** (***)	206 (5.0)»	210 (2.3)>

TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Algebra and Functions				Estimation			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	285 (4.9)!	240 (3.0)	266 (4.0)!	267 (1.4)	285 (2.0)!	249 (5.9)!	273 (5.9)!	268 (2.0)
Northeast	291 (7.4)!	236 (3.6)!	*** (***)	266 (2.8)	291 (2.8)!	234 (3.0)!	*** (***)	264 (8.0)!
Southeast	274 (2.6)!	241 (7.4)!	257 (3.7)!	261 (1.7)	*** (***)	256 (6.1)!	*** (***)	265 (2.9)
Central	286 (9.1)!	238 (6.5)!	277 (5.3)!	274 (2.6)	*** (***)	*** (***)	*** (***)	273 (3.9)!
West	282(12.0)!	246 (4.2)!	263 (6.4)!	267 (2.9)	279 (2.4)!	*** (***)	*** (***)	269 (2.0)
STATES								
Alabama	260 (8.0)!	238 (5.1)!	255 (3.2)!	255 (2.6)	269 (7.3)!	250 (3.9)!	261 (1.8)!	261 (1.6)
Arizona	274 (4.4)!	250 (3.9)!	252 (7.5)!	264 (1.6)	279 (3.7)!	257 (3.3)!	261 (8.5)!	268 (1.4)
Arkansas	*** (***)	237 (6.4)!	260 (2.9)!	255 (1.7)	*** (***)	246 (5.6)!	267 (1.7)!	263 (1.4)
California	291 (7.2)!	237 (4.6)	*** (***)	262 (2.1)	281 (5.6)!	246 (3.4)	*** (***)	266 (1.8)
Colorado	281 (2.1)	253 (3.4)!	270 (3.6)!	270 (1.5) >	279 (1.9)	259 (2.5)!	274 (2.3)!	273 (1.2)
Connecticut	280 (5.6)!	240 (3.6)	*** (***)	276 (2.0) >	282 (4.0)!	254 (3.0)	*** (***)	279 (1.3)
Delaware	*** (***)	*** (***)	264 (2.9)	262 (1.3)	*** (***)	*** (***)	262 (2.0)	263 (1.0)
Dist. Columbia	256 (3.7)	226 (1.5)	*** (***)	255 (2.3) »	249 (3.9)	235 (0.9)	*** (***)	252 (1.8)
Florida	272 (5.4)!	250 (7.3)!	255 (6.0)!	262 (2.0)	274 (4.8)!	256 (3.9)!	261 (5.4)!	265 (1.5)
Georgia	269 (6.6)!	249 (3.7)!	247 (3.1)!	260 (2.0)	271 (4.3)!	253 (2.8)!	256 (1.8)!	265 (1.2)
Hawaii	251 (4.2) <	239 (2.8)	*** (***)	259 (1.6) »	253 (3.4)	251 (2.2)	*** (***)	262 (1.1)
Idaho	286 (2.9)!	282 (7.1)!	274 (2.2) >	274 (0.9)	276 (3.9)!	274 (4.9)!	276 (1.4)	274 (0.7)
Indiana	286 (5.8)!	241 (3.6)!	267 (3.2)	270 (1.6)	283 (3.6)!	252 (2.1)!	270 (1.5)	273 (1.2)
Iowa	292 (6.7)!	264 (5.6)!	283 (2.1) >	277 (1.4)	290 (8.4)!	273 (3.0)!	286 (1.3)	280 (1.1)
Kentucky	284 (9.8)!	253 (4.6)!	261 (4.4)!	261 (1.7)	287 (4.0)!	254 (2.6)!	268 (1.8)!	266 (1.1)
Louisiana	*** (***)	231 (4.5)	254 (5.9)!	252 (2.1)	*** (***)	239 (2.8)	265 (4.5)!	261 (1.5)
Maine	*** (***)	*** (***)	271 (2.2)!	273 (1.4)	*** (***)	*** (***)	274 (2.7)!	275 (1.2)
Maryland	283 (3.9)	241 (7.0)!	*** (***)	265 (2.6)	278 (2.8)	245 (5.9)!	*** (***)	266 (2.1)
Massachusetts	299 (5.2)!	250 (3.7)	*** (***)	276 (2.0)	297 (3.2)!	258 (2.2)	*** (***)	279 (1.5)
Michigan	294 (8.9)!	237 (4.2)	272 (2.9)!	271 (2.0)	282 (7.1)!	247 (3.2)	272 (2.6)!	270 (1.6)
Minnesota	293 (8.2)!	*** (***)	279 (3.4)!	281 (1.6)	287 (4.4)!	*** (***)	285 (2.1)!	283 (1.1)
Mississippi	*** (***)	236 (5.4)!	244 (4.8)!	244 (1.9)	*** (***)	253 (5.3)!	257 (3.6)!	259 (1.2)
Missouri	275 (3.4)!	256 (4.3)!	269 (3.4)!	272 (1.7)	274 (2.8)!	257 (5.3)!	272 (2.6)!	272 (1.0)
Nebraska	*** (***)	248 (4.2)	278 (2.8)	275 (1.8) >	*** (***)	256 (3.3)	280 (1.8)	277 (1.3)
New Hampshire	292 (6.2)!	*** (***)	277 (3.5)!	273 (1.1)	289 (3.1)!	*** (***)	278 (3.0)!	277 (1.1)
New Jersey	294 (3.8)!	238 (4.1)	*** (***)	281 (1.6) »	292 (2.4)!	249 (3.3)	*** (***)	280 (1.2)
New Mexico	278 (4.2)	248 (3.7)!	254 (7.0)!	257 (1.5)	276 (2.1)	260 (3.4)!	265 (6.5)!	265 (1.1)
New York	290 (3.8)!	231 (6.0)!	273 (2.7)!	269 (2.8)	287 (1.9)!	238 (5.6)!	274 (2.3)!	269 (2.2)
North Carolina	278(13.1)!	244 (7.0)!	251 (3.8)!	259 (1.8) >	276(10.2)!	251 (5.2)!	260 (2.8)!	262 (1.3)
North Dakota	282 (2[illegible]	*** (***)	277 (2.3)	279 (1.6)	287 (2.3)!	*** (***)	284 (1.7)	281 (1.1)
Ohio	300 (5.3)! >	248 (3.3)	275 (2.8)!	268 (2.1)	284 (4.9)!	252 (2.3)	277 (2.0)!	272 (1.6)
Oklahoma	*** (***)	266 (3.6)! >	267 (2.8)!	268 (1.6)	*** (***)	276 (2.2)!	271 (2.4)!	272 (1.1)
Pennsylvania	288 (8.8)!	246 (5.8)!	277 (3.6)!	274 (1.6) >	290 (3.4)!	251 (4.1)!	276 (2.8)!	276 (1.4)
Rhode Island	279 (4.1)	243 (3.9)	*** (***)	269 (1.6) »	284 (2.0)	258 (2.4)	*** (***)	271 (0.8)
South Carolina	270 (5.2)!	246 (7.0)!	270 (3.8)!	259 (1.3)	276 (3.7)!	250 (5.7)!	271 (3.0)!	264 (1.0)
Tennessee	281 (3.5)!	229 (7.6)!	258 (3.9)!	258 (1.6)	287 (3.0)!	244 (7.0)!	265 (2.9)!	265 (1.3)
Texas	292 (2.8)! »	250 (2.2)!	262 (6.7)!	265 (1.9) >	284 (3.1)!	256 (1.9)!	270 (5.6)!	267 (1.4)
Utah	280 (3.8)	266 (4.1)!	270 (2.3)!	272 (1.2)	284 (2.3)	270 (1.8)!	271 (1.6)!	273 (0.9)
Virginia	283 (5.2)!	248 (5.4)!	260 (4.9)!	266 (1.7)	282 (2.8)!	257 (2.9)!	267 (4.0)!	270 (1.3)
West Virginia	*** (***)	255 (3.0)	257 (3.6)!	257 (1.5)	*** (***)	261 (2.1)	264 (2.8)!	263 (1.0)
Wisconsin	286 (3.2)!	238 (5.0)!	281 (3.3)!	275 (2.0)	280 (3.0)!	252 (3.0)!	284 (2.0)!	278 (1.5)
Wyoming	*** (***)	271 (6.2)!	274 (2.6)!	272 (1.3)	*** (***)	275 (4.5)!	277 (1.9)!	277 (1.0)
TERRITORIES								
Guam	*** (***)	*** (***)	213 (4.5) «	239 (1.2) »	*** (***)	*** (***)	231 (4.2)	245 (1.0)
Virgin Islands	*** (***)	*** (***)	215 (3.2)	216 (1.8)	*** (***)	*** (***)	232 (2.4)	228 (2.0)

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TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Numbers and Operations				Measurement			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	284 (3.9)!	255 (3.4)!	260 (4.5)!	266 (1.7)	281 (4.8)!	243 (4.8)!	253 (4.8)!	258 (2.2)
Northeast	283 (7.9)!	251(10.7)!	*** (***)	274 (3.4)	279 (9.7)!	237(16.4)!	*** (***)	269 (5.1)
Southeast	*** (***)	*** (***)	257(14.3)!	260 (3.0)	*** (***)	*** (***)	246(16.2)!	248 (3.1)
Central	*** (***)	247 (1.9)!	*** (***)	272 (3.0)	*** (***)	229 (2.8)!	*** (***)	266 (4.2)
West	284 (4.4)!	260 (5.9)!	254 (9.6)!	261 (3.3)	283 (4.1)!	251 (8.2)!	250 (9.3)!	254 (3.8)
STATES								
Alabama	272 (4.5)!	254 (2.9)!	254 (3.2)!	259 (1.7)	263 (5.7)!	236 (3.9)!	242 (4.6)!	249 (1.9)
Arizona	278 (2.8)!	252 (4.3)!	251 (6.7)!	264 (2.2)	275 (3.4)!	245 (4.9)!	247 (6.8)!	256 (2.5)
Arkansas	276 (4.0)!	249 (4.0)!	262 (1.7)	263 (1.0)	266 (6.6)!	233 (6.7)!	255 (3.1)	256 (1.5)
California	280 (4.1)!	245 (4.2)!	*** (***)	260 (1.8)	274 (5.0)!	238 (4.5)	*** (***)	252 (2.2)
Colorado	281 (1.7)	250 (6.4)!	270 (2.1)	267 (1.6)	279 (2.6)	245 (7.9)!	266 (2.2)	262 (2.0)
Connecticut	288 (1.6)	244 (3.3)	*** (***)	273 (1.1)	286 (2.4)	234 (5.0)	*** (***)	268 (2.0)
Delaware	285 (2.1)	*** (***)	264 (1.5)	264 (1.1)	283 (3.5)	*** (***)	259 (2.5)	256 (1.6)
Dist. Columbia	262 (2.9)	233 (1.1)	*** (***)	240 (2.3)	249 (4.4)	216 (1.5)	*** (***)	226 (2.7)
Florida	274 (2.4)!	248 (1.7)	255 (3.2)!	261 (1.9)	264 (3.1)!	237 (2.2)	249 (3.6)!	253 (2.6)
Georgia	287 (2.2)!	253 (4.0)!	257 (2.0)	261 (1.7)	279 (2.2)!	238 (4.9)!	247 (2.4)	251 (2.2)
Hawaii	275 (3.1)	243 (2.3)	*** (***)	258 (0.9)	261 (3.2)	233 (2.7)	*** (***)	252 (1.0)
Idaho	*** (***)	*** (***)	272 (1.1)	275 (1.1)	*** (***)	*** (***)	267 (1.3)	269 (1.3)
Indiana	282 (4.0)!	249 (5.7)!	271 (2.4)	273 (1.4)	280 (5.6)!	242 (6.7)!	263 (3.7)	266 (2.3)
Iowa	295 (5.7)!	267 (1.9)!	284 (1.5)	281 (1.6)	297 (6.7)!	257 (3.0)!	277 (2.0)	275 (2.4)
Kentucky	272 (2.6)!	254 (3.0)!	258 (1.8)	263 (1.4)	263 (3.4)!	245 (3.8)!	251 (2.2)	255 (1.9)
Louisiana	271 (3.9)!	246 (3.1)	245 (2.8)!	256 (1.7)	262 (5.0)!	229 (4.3)	231 (3.9)!	246 (2.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	278 (3.7)	240 (3.4)!	260 (5.9)!	265 (2.1)	273 (4.9)	223 (4.7)!	253 (6.4)!	257 (2.7)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	287 (2.4)!	241 (2.7)!	270 (2.5)	271 (1.7)	282 (2.7)!	227 (3.6)!	264 (3.8)	264 (2.2)
Minnesota	280 (1.7)	*** (***)	279 (1.9)	282 (1.5)	271 (2.5)	*** (***)	272 (2.4)	275 (1.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	288 (3.5)	*** (***)	282 (2.2)	275 (1.3)	279 (4.4)	*** (***)	277 (3.5)	268 (1.8)
New Hampshire	281 (3.7)	*** (***)	279 (5.3)!	275 (0.9)	283 (5.5)	*** (***)	278 (6.8)!	272 (1.6)
New Jersey	289 (2.3)	247 (2.3)	*** (***)	274 (1.8)	284 (3.8)	230 (4.0)	*** (***)	269 (1.9)
New Mexico	285 (3.9)	260 (3.7)	255 (1.9)	258 (0.9)	287 (2.5)	255 (4.2)	251 (2.5)	252 (0.9)
New York	281 (2.6)!	243 (2.3)	278 (2.3)!	272 (1.6)	283 (4.0)!	229 (4.1)	272 (3.1)!	264 (2.5)
North Carolina	277 (5.3)!	251 (9.0)!	250 (2.2)	256 (1.2)	257 (5.7)!	233(12.2)!	235 (3.3)	244 (1.6)
North Dakota	288 (3.2)	*** (***)	285 (2.3)	287 (1.6)	284 (3.9)	*** (***)	278 (3.0)	280 (1.9)
Ohio	284 (2.2)!	247 (3.6)	272 (2.2)!	269 (1.2)	276 (2.6)!	235 (3.5)	263 (3.8)!	260 (1.6)
Oklahoma	282 (3.3)!	256 (2.8)!	263 (3.2)	270 (1.5)	280 (4.1)!	243 (4.1)!	251 (3.9)	260 (2.1)
Pennsylvania	290 (2.4)!	251 (4.7)!	271 (2.8)!	271 (1.6)	290 (3.2)!	238 (6.9)!	268 (4.6)!	266 (1.9)
Rhode Island	279 (2.0)	249 (2.2)	*** (***)	263 (0.8)	275 (2.8)	241 (2.2)	*** (***)	254 (1.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	278 (3.0)!	251 (2.1)!	268 (3.7)!	261 (1.9)	273 (3.4)!	240 (3.2)!	262 (4.2)!	252 (2.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	286 (3.3)	252 (4.1)!	254 (2.5)	265 (1.6)	279 (4.2)	238 (6.2)!	243 (3.3)	257 (2.0)
West Virginia	*** (***)	263 (2.1)!	260 (1.6)!	260 (1.2)	*** (***)	252 (2.6)!	253 (1.5)!	253 (1.5)
Wisconsin	291 (3.1)!	251 (3.9)!	282 (1.9)	280 (1.5)	284 (5.8)!	233 (5.5)!	281 (3.0)	276 (1.6)
Wyoming	*** (***)	*** (***)	279 (1.7)	276 (0.9)	*** (***)	*** (***)	275 (1.9)	270 (1.0)
TERRITORIES								
Guam	*** (***)	*** (***)	244 (1.3)	239 (0.8)	*** (***)	*** (***)	229 (2.6)	229 (1.3)
Virgin Islands	*** (***)	*** (***)	219 (2.8)	231 (1.0)	*** (***)	*** (***)	211 (2.7)	217 (2.2)

TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Geometry				Data Analysis, Statistics, and Probability			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	278 (4.7)!	249 (3.7)!	255 (4.3)!	259 (1.7)	285 (4.2)!	247 (4.7)!	257 (5.5)!	262 (2.3)
Northeast	276 (9.5)!	241(10.9)!	*** (***)	271 (3.4)	284 (9.3)!	241(15.0)!	*** (***)	277 (4.1)
Southeast	*** (***)	*** (***)	247(16.2)!	251 (3.1)	*** (***)	*** (***)	250(18.9)!	253 (3.5)
Central	*** (***)	236 (4.5)!	*** (***)	264 (3.6)	*** (***)	231 (2.8)!	*** (***)	268 (3.8)
West	280 (6.3)!	255 (5.9)!	253 (9.1)!	258 (3.2)	286 (3.3)!	255 (8.6)!	251(11.5)!	258 (4.6)
STATES								
Alabama	264 (5.2)!	245 (3.0)!	244 (3.8)!	249 (1.9)	271 (6.0)!	245 (3.8)!	244 (4.2)!	251 (2.1)
Arizona	267 (2.7)!	245 (3.0)!	248 (6.5)!	256 (2.1)	279 (3.0)!	246 (5.0)!	242 (8.7)!	257 (2.8)
Arkansas	271 (4.1)!	237 (4.5)!	252 (2:3)	254 (1.2)	274 (6.2)!	232 (6.1)!	254 (2.4)	256 (1.4)
California	276 (3.9)!	245 (3.7)!	*** (***)	255 (1.6)	280 (4.8)!	237 (5.7)!	*** (***)	254 (2.5)
Colorado	278 (1.9)	248 (5.0)!	267 (2.4)	263 (1.6)	281 (2.2)	246 (6.2)!	272 (2.3)	267 (1.6)
Connecticut	281 (1.9)	238 (2.7)	*** (***)	265 (1.6)	288 (1.8)	235 (4.1)	*** (***)	271 (1.6)
Delaware	276 (2.6)	*** (***)	253 (1.5)	255 (1.4)	284 (3.2)	*** (***)	257 (2.0)	260 (1.6)
Dist. Columbia	257 (3.0)	222 (1.2)	*** (***)	232 (2.3)	255 (6.7)	215 (1.2)	*** (***)	227 (3.8)
Florida	266 (3.1)!	238 (2.4)	246 (3.1)!	251 (2.1)	273 (3.3)!	239 (2.4)	249 (4.5)!	256 (2.7)
Georgia	282 (3.4)!	244 (5.1)!	250 (2.5)	255 (1.8)	292 (3.9)!	248 (5.4)!	253 (2.4)	258 (2.0)
Hawaii	269 (2.7)	238 (2.6)	*** (***)	254 (1.0)	267 (5.3)	224 (2.7)	*** (***)	245 (1.2)
Idaho	*** (***)	*** (***)	267 (1.3)	269 (1.4)	*** (***)	*** (***)	270 (1.3)	274 (1.2)
Indiana	276 (4.6)!	246 (5.6)!	263 (2.3)	265 (1.3)	283 (3.9)!	242 (7.3)!	268 (3.1)	271 (1.7)
Iowa	291 (6.1)!	258 (3.4)!	274 (1.7)	273 (1.9)	294 (5.8)!	260 (3.3)!	281 (1.8)	279 (1.9)
Kentucky	264 (2.6)!	244 (3.4)!	250 (2.2)	256 (1.4)	273 (3.6)!	246 (3.8)!	254 (1.8)	260 (1.7)
Louisiana	266 (4.8)!	232 (4.1)	232 (3.0)!	246 (2.0)	268 (5.6)!	229 (4.3)	233 (4.3)!	248 (2.4)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	274 (4.4)	229 (3.1)!	251 (4.0)!	256 (2.4)	277 (4.2)	235 (4.2)!	256 (5.8)!	262 (2.8)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	277 (2.6)!	237 (3.5)!	265 (2.4)	263 (1.8)	285 (3.0)!	228 (4.1)!	269 (4.0)	269 (2.0)
Minnesota	273 (1.7)	*** (***)	273 (1.8)	275 (1.7)	282 (2.0)	*** (***)	278 (1.7)	281 (1.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	281 (3.1)	*** (***)	276 (2.4)	269 (1.7)	285 (3.9)	*** (***)	282 (2.1)	273 (1.6)
New Hampshire	278 (4.2)	*** (***)	277 (5.3)!	272 (0.9)	281 (4.6)	*** (***)	284 (6.5)!	276 (1.4)
New Jersey	281 (3.1)	237 (3.1)	*** (***)	266 (2.0)	288 (3.4)	233 (3.3)	*** (***)	271 (2.3)
New Mexico	279 (3.7)	258 (3.0)	256 (1.4)	255 (1.0)	285 (4.4)	250 (4.3)	249 (2.4)	252 (1.4)
New York	278 (3.1)!	237 (3.2)	280 (2.3)!	269 (1.6)	285 (4.2)!	236 (3.3)	282 (3.0)!	273 (2.1)
North Carolina	261 (7.7)!	240(11.0)!	242 (2.7)	250 (1.4)	266 (7.9)!	236(11.9)!	241 (3.0)	250 (1.9)
North Dakota	283 (4.4)	*** (***)	276 (2.6)	278 (1.5)	291 (3.1)	*** (***)	283 (3.3)	287 (1.6)
Ohio	276 (2.2)!	238 (4.0)	263 (2.4)!	261 (1.2)	285 (2.7)!	240 (4.3)	268 (3.2)!	267 (1.4)
Oklahoma	277 (2.9)!	247 (2.7)!	253 (3.3)	262 (1.6)	283 (3.9)!	251 (4.0)!	257 (3.9)	266 (2.3)
Pennsylvania	284 (3.8)!	241 (5.7)!	266 (4.0)!	264 (1.6)	292 (2.9)!	245 (6.3)!	269 (3.4)!	268 (1.7)
Rhode Island	274 (2.5)	241 (2.7)	*** (***)	255 (0.9)	277 (2.2)	241 (2.9)	*** (***)	258 (1.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	276 (3.1)!	246 (2.3)!	262 (2.8)!	257 (1.8)	280 (3.1)!	242 (3.1)!	263 (4.9)!	256 (2.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	280 (4.1)	239 (5.3)!	244 (3.2)	258 (2.0)	284 (4.5)	242 (6.3)!	245 (3.2)	262 (2.2)
West Virginia	*** (***)	257 (2.6)!	252 (1.4)!	254 (1.3)	*** (***)	260 (2.4)!	255 (1.9)!	256 (2.0)
Wisconsin	287 (5.9)!	242 (3.9)!	277 (2.8)	274 (1.5)	296 (4.7)!	245 (4.4)!	283 (1.9)	278 (1.6)
Wyoming	*** (***)	*** (***)	273 (1.4)	270 (0.9)	*** (***)	*** (***)	278 (1.5)	273 (1.2)
TERRITORIES								
Guam	*** (***)	*** (***)	242 (2.0)	234 (1.2)	*** (***)	*** (***)	217 (2.7)	213 (1.5)
Virgin Islands	*** (***)	*** (***)	215 (1.8)	225 (1.4)	*** (***)	*** (***)	183 (2.3)	200 (2.4)

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TABLE 4.11 | Average Proficiency in Mathematics Content Areas by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990			
	Algebra and Functions			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	278 (4.5)!	250 (3.6)!	255 (4.2)!	261 (1.6)
Northeast	277 (9.4)!	246(13.9)!	*** (***)	270 (3.6)
Southeast	*** (***)	*** (***)	253(15.0)!	256 (2.6)
Central	*** (***)	236 (4.0)!	*** (***)	264 (3.2)
West	279 (3.5)!	255 (5.8)!	249 (8.6)!	257 (3.4)
STATES				
Alabama	265 (5.1)!	246 (2.7)!	246 (3.4)!	252 (1.9)
Arizona	271 (3.2)!	244 (4.3)!	245 (7.6)!	257 (2.3)
Arkansas	261 (3.7)!	236 (4.2)!	251 (2.0)	255 (1.5)
California	277 (4.5)!	242 (4.5)!	*** (***)	256 (1.9)
Colorado	279 (2.1)	245 (7.1)!	265 (3.2)	263 (1.8)
Connecticut	283 (1.8)	239 (3.9)	*** (***)	267 (1.9)
Delaware	279 (2.1)	*** (***)	256 (1.8)	258 (1.2)
Dist. Columbia	261 (3.7)	229 (1.2)	*** (***)	238 (3.1)
Florida	271 (2.5)!	242 (2.4)	248 (3.2)!	256 (2.3)
Georgia	286 (3.5)!	245 (5.1)!	250 (2.6)	255 (1.8)
Hawaii	267 (2.5)	237 (2.3)	*** (***)	250 (1.1)
Idaho	*** (***)	*** (***)	265 (1.4)	271 (1.2)
Indiana	279 (4.2)!	240 (7.8)!	266 (2.6)	266 (1.3)
Iowa	291 (6.2)!	261 (1.8)!	275 (1.5)	274 (1.9)
Kentucky	270 (3.0)!	249 (3.4)!	252 (2.1)	258 (1.6)
Louisiana	265 (4.4)!	236 (4.0)	237 (2.5)!	249 (2.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	280 (4.2)	237 (3.6)!	255 (5.1)!	262 (2.4)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	281 (2.7)!	239 (3.5)!	267 (2.3)	266 (1.8)
Minnesota	276 (1.7)	*** (***)	273 (1.8)	276 (1.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	290 (3.8)	*** (***)	274 (2.4)	269 (1.3)
New Hampshire	276 (2.9)	*** (***)	279 (6.1)!	272 (0.9)
New Jersey	284 (3.1)	237 (3.0)	*** (***)	269 (1.7)
New Mexico	284 (4.4)	258 (4.0)	253 (2.2)	255 (1.0)
New York	277 (2.7)!	241 (2.9)	274 (2.1)!	268 (1.5)
North Carolina	271 (5.4)!	243 (9.4)!	245 (2.2)	252 (1.3)
North Dakota	278 (2.0)	*** (***)	273 (2.6)	277 (1.4)
Ohio	279 (2.5)!	244 (3.2)	264 (2.5)!	262 (1.1)
Oklahoma	278 (3.3)!	251 (3.2)!	256 (2.8)	264 (1.6)
Pennsylvania	286 (2.6)!	246 (5.5)!	266 (2.9)!	266 (1.6)
Rhode Island	277 (1.4)	246 (2.5)	*** (***)	260 (1.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	274 (3.2)!	244 (2.5)!	264 (3.0)!	255 (2.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	283 (3.9)	244 (6.1)!	249 (3.6)	263 (1.7)
West Virginia	*** (***)	255 (2.9)!	253 (1.3)!	254 (1.3)
Wisconsin	287 (4.4)!	243 (3.9)!	273 (1.4)	272 (1.3)
Wyoming	*** (***)	*** (***)	273 (1.6)	271 (1.1)
TERRITORIES				
Guam	*** (***)	*** (***)	235 (2.1)	229 (1.3)
Virgin Islands	*** (***)	*** (***)	207 (2.8)	222 (1.6)

Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education

TABLE 4.12 Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education, Grades 4, 8, and 12

	Assessment Years	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions	Estimation
Grade 4							
Did Not Finish H.S	**1992**	200 (2.7)	208 (3.2)	209 (2.4)	206 (2.1)	202 (2.6)	191 (4.3)
	1990	199 (3.8)	206 (3.6)	204 (4.2)	--	203 (4.0)	187 (4.7)
Graduated H.S.	**1992**	210 (1.8)	219 (1.6)	215 (1.4)>	215 (1.8)	211 (1.8)	204 (3.6)
	1990	206 (1.8)	215 (1.7)	209 (1.3)	--	208 (1.7)	200 (3.0)
Some Education After H.S.	**1992**	220 (1.8)	229 (1.6)	224 (1.8)	226 (1.7)	222 (1.7)	220 (3.4)>
	1990	221 (2.7)	227 (3.0)	220 (2.3)	--	217 (2.8)	204 (4.9)
Graduated College	**1992**	224 (1.2)>	230 (1.2)>	226 (0.9)>	226 (1.2)	224 (1.3)	218 (2.0)>
	1990	219 (1.6)	226 (2.0)	220 (1.5)	--	221 (1.4)	209 (2.1)
Grade 8							
Did Not Finish H.S.	**1992**	254 (1.8)>	243 (2.5)	246 (1.4)	247 (2.4)>	248 (1.9)>	258 (3.4)
	1990	248 (2.0)	237 (2.7)	242 (2.0)	239 (2.3)	241 (1.8)	256 (3.2)
Graduated H.S.	**1992**	262 (1.2)	252 (1.7)	254 (1.2)	254 (1.7)	256 (1.3)	262 (2.4)
	1990	260 (1.7)	250 (1.9)	253 (1.5)	255 (2.1)	254 (1.5)	260 (1.9)
Some Education After H.S.	**1992**	274 (1.1)	268 (1.4)	265 (1.4)	274 (1.4)	269 (1.6)	274 (2.6)
	1990	272 (1.5)	265 (2.0)	262 (1.8)	270 (1.9)	266 (1.6)	273 (2.5)
Graduated College	**1992**	283 (1.2)>	280 (1.9)>	274 (1.2)	282 (1.6)>	280 (1.4)>	280 (1.6)
	1990	278 (1.4)	272 (1.9)	270 (1.5)	276 (1.7)	273 (1.5)	277 (1.5)
Grade 12							
Did Not Finish H.S.	**1992**	279 (1.7)	276 (1.9)	279 (2.2)>	277 (1.7)	277 (1.8)	277 (2.7)
	1990	274 (2.1)	271 (2.2)	269 (2.3)	274 (2.6)	273 (2.2)	273 (3.1)
Graduated H.S.	**1992**	288 (1.4)>	284 (1.4)	287 (1.5)	288 (1.7)	287 (1.6)	288 (1.9)
	1990	283 (1.9)	280 (2.3)	282 (2.3)	284 (2.1)	284 (2.0)	286 (1.7)
Some Education After H.S.	**1992**	298 (0.9)	296 (1.4)	299 (1.2)	296 (1.3)	298 (1.4)	295 (1.6)
	1990	295 (1.1)	295 (1.4)	298 (1.5)	298 (1.4)	298 (1.4)	296 (1.9)
Graduated College	**1992**	308 (1.2)>	309 (1.3)>	313 (1.3)>	309 (1.2)>	312 (1.4)	303 (1.6)
	1990	303 (1.5)	304 (1.8)	309 (1.8)	304 (1.6)	308 (1.7)	301 (2.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent of 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent.

TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education

PUBLIC SCHOOLS	Grade 4 - 1992									
	Numbers and Operations					Measurement				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	223 (1.4)	220 (2.1)	209 (1.9)	199 (2.8)	208 (1.1)	229 (1.4)	228 (1.9)	218 (1.7)	207 (3.3)	217 (0.9)
Northeast	230 (3.1)	227 (5.0)	211 (5.1)	*** (***)	212 (2.8)	234 (3.4)	235 (4.9)	221 (5.6)	*** (***)	220 (2.2)
Southeast	213 (2.2)	213 (4.2)	199 (3.5)	193 (4.2)	200 (1.9)	219 (2.4)	222 (4.4)	209 (3.3)	203 (4.4)	210 (2.0)
Central	226 (2.6)	225 (4.7)	215 (3.6)	*** (***)	212 (2.4)	235 (2.5)	236 (3.7)	225 (3.4)	*** (***)	222 (2.6)
West	222 (2.7)	216 (3.1)	213 (3.1)	198 (5.5)	208 (2.1)	228 (2.8)	222 (2.7)	221 (2.3)	205 (5.9)	215 (2.0)
STATES										
Alabama	207 (2.6)	216 (3.1)	200 (2.5)	199 (2.3)	199 (2.4)	217 (2.5)	222 (2.7)	210 (2.9)	209 (2.7)	209 (2.1)
Arizona	217 (1.7)	223 (2.0)	207 (3.0)	197 (3.8)	205 (2.1)	226 (1.8)	230 (2.4)	213 (4.0)	206 (4.0)	214 (1.6)
Arkansas	209 (2.0)	214 (2.4)	204 (2.0)	193 (2.5)	202 (1.4)	219 (2.3)	219 (2.1)	215 (2.3)	205 (2.8)	212 (2.4)
California	214 (2.4)	216 (3.6)	197 (3.7)	187 (5.3)	199 (2.0)	220 (2.3)	219 (3.2)	203 (3.6)	190 (5.3)	204 (2.4)
Colorado	225 (1.4)	224 (2.2)	209 (2.1)	195 (2.6)	208 (1.5)	235 (1.4)	234 (2.7)	218 (3.0)	205 (3.1)	217 (1.7)
Connecticut	232 (1.5)	222 (3.1)	214 (2.5)	200 (3.4)	217 (1.9)	240 (1.3)	231 (2.8)	225 (2.9)	208 (3.1)	222 (2.0)
Delaware	224 (2.0)	216 (3.5)	210 (2.1)	192 (3.4)	207 (1.1)	227 (1.8)	223 (3.3)	218 (2.3)	200 (3.7)	216 (1.4)
Dist. Columbia	194 (1.5)	194 (3.6)	186 (2.3)	183 (3.2)	184 (1.1)	198 (1.3)	200 (4.2)	188 (2.5)	189 (2.8)	188 (2.0)
Florida	216 (2.5)	217 (2.6)	200 (2.7)	193 (2.9)	204 (2.1)	226 (2.8)	228 (2.9)	212 (2.1)	205 (3.1)	214 (1.8)
Georgia	218 (1.9)	222 (2.6)	201 (1.8)	198 (2.9)	206 (1.5)	226 (1.9)	225 (5.2)	209 (2.2)	207 (2.6)	218 (1.9)
Hawaii	218 (2.0)	216 (3.1)	200 (2.0)	196 (4.4)	208 (1.6)	220 (2.5)	222 (3.7)	206 (3.0)	202 (4.3)	216 (1.8)
Idaho	223 (1.9)	224 (2.4)	209 (2.4)	194 (3.2)	212 (1.3)	233 (1.6)	235 (2.9)	223 (1.8)	207 (3.1)	223 (1.8)
Indiana	223 (1.6)	228 (2.3)	212 (1.7)	204 (2.9)	209 (1.7)	233 (1.8)	237 (2.7)	224 (2.2)	216 (2.5)	221 (1.6)
Iowa	234 (1.5)	233 (2.1)	221 (2.5)	209 (3.3)	221 (1.5)	241 (1.6)	241 (3.0)	227 (2.7)	215 (3.1)	229 (1.6)
Kentucky	221 (2.2)	220 (3.3)	208 (1.8)	200 (2.0)	207 (1.6)	227 (1.9)	227 (2.9)	215 (2.1)	209 (2.0)	215 (1.5)
Louisiana	204 (1.9)	210 (3.3)	195 (2.5)	189 (2.9)	197 (2.1)	212 (2.0)	220 (4.1)	205 (3.8)	200 (3.5)	206 (2.0)
Maine	236 (2.0)	235 (2.7)	221 (2.0)	212 (3.5)	221 (1.7)	246 (1.9)	249 (3.1)	232 (2.7)	217 (4.2)	227 (1.5)
Maryland	222 (2.0)	225 (3.3)	203 (2.8)	198 (3.0)	207 (1.8)	227 (1.9)	230 (3.6)	212 (4.2)	204 (3.8)	213 (2.1)
Massachusetts	232 (1.3)	228 (3.4)	218 (2.0)	192 (3.8)	215 (1.8)	239 (1.7)	232 (3.9)	221 (3.4)	197 (5.3)	220 (2.3)
Michigan	225 (2.3)	220 (2.5)	206 (2.6)	196 (5.6)	208 (2.0)	232 (2.6)	232 (3.3)	219 (3.3)	209 (5.3)	220 (2.5)
Minnesota	234 (1.6)	229 (3.2)	218 (2.1)	*** (***)	219 (1.3)	241 (1.8)	238 (3.4)	226 (1.8)	*** (***)	229 (1.7)
Mississippi	203 (2.0)	210 (3.9)	196 (2.8)	191 (2.7)	195 (1.7)	210 (1.9)	212 (5.9)	202 (3.4)	199 (2.5)	203 (1.8)
Missouri	225 (1.8)	225 (2.3)	213 (2.3)	206 (3.1)	211 (1.8)	235 (2.8)	231 (2.2)	221 (3.1)	213 (3.1)	221 (1.7)
Nebraska	227 (1.8)	229 (3.0)	219 (2.7)	*** (***)	215 (1.6)	237 (2.0)	234 (2.7)	227 (2.4)	*** (***)	224 (2.3)
New Hampshire	233 (1.7)	230 (3.4)	219 (1.9)	206 (4.2)	219 (1.6)	241 (2.0)	236 (3.0)	230 (1.5)	215 (4.9)	227 (1.8)
New Jersey	233 (1.8)	228 (3.1)	218 (2.3)	209 (4.1)	217 (2.3)	239 (2.2)	238 (3.3)	225 (3.0)	210 (5.4)	219 (2.4)
New Mexico	217 (2.4)	218 (3.3)	202 (2.8)	196 (3.1)	201 (1.8)	225 (2.1)	225 (3.9)	212 (2.4)	208 (2.3)	211 (1.8)
New York	225 (2.1)	223 (3.3)	208 (2.4)	207 (3.0)	207 (1.8)	230 (2.0)	227 (5.2)	217 (3.6)	214 (4.0)	213 (1.9)
North Carolina	216 (1.9)	217 (3.0)	199 (2.4)	197 (2.8)	202 (1.7)	222 (2.0)	225 (2.8)	208 (2.3)	204 (2.6)	211 (1.6)
North Dakota	230 (1.3)	231 (3.3)	221 (2.3)	*** (***)	217 (1.7)	241 (1.6)	241 (3.7)	233 (2.8)	*** (***)	228 (2.0)
Ohio	225 (1.7)	218 (3.7)	212 (2.0)	201 (3.0)	206 (1.5)	232 (2.7)	226 (3.1)	221 (3.0)	210 (2.9)	215 (1.5)
Oklahoma	223 (1.6)	225 (2.4)	213 (1.9)	206 (3.1)	210 (1.4)	229 (2.0)	229 (3.3)	220 (2.6)	214 (3.3)	220 (1.6)
Pennsylvania	228 (2.2)	234 (2.6)	219 (1.9)	209 (3.7)	212 (2.0)	235 (2.4)	243 (3.0)	227 (2.0)	217 (3.4)	220 (2.1)
Rhode Island	223 (2.2)	219 (2.6)	204 (3.0)	198 (3.1)	205 (2.2)	226 (2.1)	227 (4.3)	212 (2.7)	203 (3.2)	213 (2.4)
South Carolina	217 (1.7)	217 (3.4)	201 (1.7)	200 (2.6)	200 (1.9)	226 (2.0)	222 (3.6)	211 (2.7)	210 (2.6)	212 (2.2)
Tennessee	216 (2.3)	209 (3.1)	203 (1.8)	199 (2.5)	203 (1.6)	221 (2.3)	219 (3.4)	208 (2.2)	205 (2.6)	208 (2.1)
Texas	221 (2.2)	222 (2.8)	209 (3.1)	208 (2.5)	209 (1.8)	229 (2.0)	231 (3.9)	216 (2.9)	214 (2.7)	214 (2.1)
Utah	228 (1.6)	226 (2.3)	213 (2.4)	200 (4.9)	213 (1.7)	236 (1.8)	237 (2.1)	223 (2.3)	212 (4.1)	224 (1.4)
Virginia	228 (2.2)	217 (3.2)	207 (2.0)	199 (3.2)	209 (2.2)	234 (1.9)	225 (2.8)	214 (3.4)	208 (2.6)	219 (2.0)
West Virginia	220 (2.2)	218 (3.3)	205 (1.8)	195 (2.3)	205 (1.7)	231 (2.0)	232 (2.7)	220 (1.9)	211 (2.4)	218 (1.5)
Wisconsin	231 (1.9)	237 (3.0)	223 (2.4)	216 (5.3)	218 (1.4)	240 (2.0)	243 (3.4)	231 (2.2)	225 (5.2)	227 (1.4)
Wyoming	227 (1.5)	228 (2.2)	219 (2.5)	211 (3.4)	215 (1.3)	234 (1.9)	240 (2.0)	228 (2.2)	221 (2.8)	223 (1.6)
TERRITORY										
Guam	187 (1.8)	204 (4.8)	184 (3.4)	179 (4.2)	189 (1.7)	191 (2.2)	205 (4.4)	186 (2.8)	186 (3.8)	192 (1.7)

The standard errors of the estimated proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Descriptions of the content area scales are found in Chapter Three. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 4 - 1992									
	Geometry					Data Analysis, Statistics, and Probability				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	225 (1.0)	223 (2.0)	215 (1.6)	208 (2.5)	217 (1.0)	224 (1.4)	225 (1.9)	214 (2.0)	204 (2.1)	213 (1.1)
Northeast	230 (3.0)	228 (5.3)	217 (5.8)	*** (***)	220 (2.2)	230 (3.3)	232 (5.3)	215 (5.9)	*** (***)	216 (2.7)
Southeast	217 (2.1)	218 (4.3)	206 (2.9)	205 (4.5)	210 (2.0)	215 (2.7)	221 (3.9)	205 (4.0)	200 (3.7)	206 (2.0)
Central	228 (1.6)	228 (4.5)	219 (3.2)	*** (***)	220 (2.7)	229 (2.5)	231 (4.1)	220 (3.6)	*** (***)	217 (2.4)
West	226 (2.1)	221 (2.0)	220 (2.3)	208 (4.4)	219 (1.7)	223 (2.5)	221 (2.5)	217 (2.7)	204 (4.7)	212 (2.3)
STATES										
Alabama	212 (2.1)	215 (2.7)	206 (2.1)	206 (1.8)	207 (2.0)	213 (2.3)	213 (2.8)	207 (3.0)	204 (2.1)	204 (2.3)
Arizona	222 (1.5)	227 (2.4)	214 (3.1)	209 (2.8)	217 (1.3)	220 (2.0)	222 (2.3)	211 (3.1)	203 (3.5)	210 (1.8)
Arkansas	216 (2.3)	213 (2.3)	209 (2.2)	203 (2.4)	211 (1.3)	216 (2.3)	214 (2.4)	209 (2.0)	200 (2.7)	207 (1.7)
California	220 (1.7)	220 (3.1)	208 (3.2)	197 (4.1)	210 (2.1)	217 (1.9)	214 (4.0)	195 (3.7)	186 (5.1)	200 (1.8)
Colorado	232 (1.3)	233 (1.7)	221 (2.5)	212 (3.8)	223 (1.2)	227 (1.5)	228 (2.4)	211 (3.4)	200 (2.9)	215 (2.0)
Connecticut	235 (1.4)	228 (3.5)	222 (2.1)	215 (3.4)	226 (1.9)	233 (2.0)	225 (3.9)	214 (2.5)	203 (3.1)	221 (2.2)
Delaware	225 (1.5)	221 (3.5)	216 (1.9)	203 (4.3)	215 (1.3)	226 (2.2)	223 (3.0)	213 (2.7)	200 (4.6)	216 (1.5)
Dist. Columbia	202 (1.2)	205 (3.8)	193 (2.0)	192 (4.2)	195 (1.3)	196 (1.2)	194 (3.5)	183 (3.0)	182 (3.4)	184 (1.6)
Florida	218 (1.8)	224 (2.8)	211 (2.8)	204 (2.8)	213 (1.2)	221 (2.7)	221 (2.5)	208 (2.8)	201 (2.8)	210 (1.6)
Georgia	221 (1.5)	226 (2.7)	209 (2.3)	208 (3.1)	214 (1.7)	226 (1.9)	225 (3.0)	208 (1.9)	208 (2.7)	215 (1.8)
Hawaii	222 (2.0)	221 (3.6)	210 (2.5)	207 (4.5)	217 (1.5)	216 (2.1)	226 (4.0)	199 (2.2)	197 (4.2)	211 (1.8)
Idaho	231 (1.4)	234 (2.8)	219 (2.5)	211 (3.3)	223 (1.7)	225 (1.8)	225 (2.8)	213 (2.0)	201 (3.1)	216 (1.8)
Indiana	227 (1.4)	231 (2.6)	221 (2.0)	214 (3.0)	219 (1.7)	229 (1.6)	227 (2.5)	217 (1.9)	212 (2.6)	218 (1.5)
Iowa	234 (1.1)	235 (2.4)	225 (2.1)	213 (4.2)	225 (1.5)	238 (1.3)	238 (2.9)	222 (2.7)	211 (3.3)	223 (1.5)
Kentucky	221 (1.7)	218 (3.9)	211 (1.4)	206 (2.0)	213 (1.3)	225 (2.3)	226 (3.4)	210 (1.9)	204 (2.3)	210 (1.8)
Louisiana	210 (2.1)	217 (3.3)	199 (2.8)	199 (2.6)	206 (2.1)	208 (2.2)	214 (4.1)	202 (2.5)	195 (2.9)	201 (2.0)
Maine	243 (1.4)	245 (2.4)	229 (2.1)	222 (2.9)	232 (1.1)	241 (1.6)	242 (3.0)	225 (3.1)	217 (4.4)	224 (1.6)
Maryland	227 (1.5)	228 (2.6)	204 (3.3)	205 (3.1)	215 (2.1)	226 (2.1)	228 (3.9)	209 (3.3)	203 (3.4)	210 (1.6)
Massachusetts	236 (1.5)	233 (2.7)	219 (2.1)	206 (4.4)	223 (1.6)	234 (1.6)	229 (3.2)	219 (2.2)	196 (4.9)	217 (2.1)
Michigan	226 (1.9)	230 (2.4)	218 (2.9)	209 (5.9)	218 (2.0)	227 (2.0)	223 (3.7)	214 (3.1)	201 (6.0)	211 (2.1)
Minnesota	236 (1.5)	231 (4.2)	220 (2.5)	*** (***)	227 (1.2)	236 (1.6)	227 (4.4)	219 (2.5)	*** (***)	222 (1.4)
Mississippi	206 (1.4)	209 (4.2)	197 (2.6)	196 (2.6)	201 (2.0)	205 (2.2)	206 (3.7)	193 (2.3)	192 (2.6)	196 (1.6)
Missouri	230 (1.7)	228 (2.1)	218 (2.3)	215 (2.6)	221 (1.5)	230 (1.7)	228 (3.4)	220 (3.0)	213 (2.9)	218 (1.7)
Nebraska	234 (1.6)	232 (3.2)	224 (2.7)	*** (***)	225 (1.3)	229 (2.5)	230 (2.9)	225 (2.8)	*** (***)	218 (1.6)
New Hampshire	239 (1.4)	236 (2.2)	227 (2.3)	218 (3.9)	228 (1.7)	236 (2.0)	233 (3.4)	221 (2.1)	213 (4.2)	223 (1.7)
New Jersey	231 (1.7)	229 (3.8)	219 (2.5)	213 (3.1)	221 (2.0)	233 (1.6)	232 (3.8)	216 (2.6)	209 (4.5)	215 (2.5)
New Mexico	224 (2.3)	229 (2.9)	218 (1.9)	212 (2.4)	216 (1.6)	224 (2.3)	226 (3.4)	207 (2.7)	204 (2.4)	207 (1.6)
New York	224 (1.6)	227 (4.1)	211 (3.2)	213 (4.4)	213 (1.3)	232 (2.0)	228 (3.9)	212 (4.0)	214 (3.5)	212 (2.1)
North Carolina	221 (2.1)	224 (3.0)	209 (2.0)	207 (2.7)	211 (1.8)	221 (1.9)	222 (3.0)	206 (2.6)	203 (2.6)	208 (2.3)
North Dakota	233 (1.6)	233 (2.7)	225 (2.1)	*** (***)	226 (1.5)	235 (1.1)	240 (4.1)	222 (3.6)	*** (***)	223 (1.7)
Ohio	227 (1.8)	221 (3.3)	218 (2.4)	212 (2.8)	218 (1.6)	227 (2.1)	221 (3.0)	216 (2.4)	205 (3.1)	213 (1.7)
Oklahoma	226 (1.5)	221 (2.5)	214 (2.0)	212 (3.0)	217 (1.3)	227 (2.2)	229 (3.3)	215 (1.7)	212 (2.7)	217 (1.5)
Pennsylvania	229 (1.9)	234 (1.9)	217 (2.7)	213 (3.7)	219 (2.0)	230 (2.1)	238 (2.3)	219 (1.9)	212 (3.2)	216 (1.9)
Rhode Island	223 (2.2)	222 (3.1)	212 (2.9)	206 (3.2)	212 (2.0)	223 (2.0)	214 (3.7)	210 (2.6)	198 (2.8)	206 (2.5)
South Carolina	222 (1.8)	219 (2.1)	207 (1.7)	208 (2.9)	212 (2.0)	220 (2.2)	219 (4.0)	204 (2.4)	205 (2.3)	205 (1.8)
Tennessee	216 (2.5)	212 (3.3)	203 (3.3)	202 (2.6)	209 (1.6)	219 (2.5)	216 (3.1)	206 (2.3)	202 (2.5)	206 (1.8)
Texas	224 (2.2)	227 (2.7)	219 (3.4)	215 (2.9)	217 (1.7)	225 (2.5)	226 (3.6)	216 (2.5)	212 (2.3)	213 (1.7)
Utah	232 (1.2)	226 (1.9)	222 (2.7)	214 (3.9)	223 (1.6)	229 (1.7)	227 (3.6)	214 (2.7)	204 (3.6)	215 (1.8)
Virginia	231 (2.1)	216 (2.7)	212 (2.0)	206 (2.3)	218 (1.6)	234 (1.9)	224 (2.5)	213 (2.3)	207 (2.4)	216 (2.0)
West Virginia	224 (1.7)	219 (2.6)	212 (1.5)	208 (2.3)	214 (1.4)	223 (1.9)	225 (2.6)	209 (1.7)	200 (2.2)	210 (1.5)
Wisconsin	234 (1.8)	235 (1.6)	224 (2.3)	222 (3.9)	224 (1.7)	234 (1.5)	235 (2.3)	229 (2.4)	218 (5.1)	224 (1.5)
Wyoming	232 (1.7)	233 (2.4)	222 (1.8)	222 (3.0)	224 (1.2)	229 (1.5)	230 (2.0)	221 (3.3)	217 (3.0)	220 (1.4)
TERRITORY										
Guam	204 (2.2)	212 (4.1)	196 (3.1)	194 (4.0)	201 (1.5)	190 (1.8)	208 (4.2)	184 (3.5)	179 (4.0)	189 (1.9)

Descriptions of the content area scales are found in Chapter Three.

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TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 4 - 1992									
	Algebra and Functions					Estimation				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	223 (1.5)	221 (1.9)	211 (1.9)	202 (2.7)	211 (1.1)	216 (2.4)	219 (3.6)	201 (4.2)	190 (4.6)	196 (3.0)
Northeast	230 (3.2)	230 (5.0)	215 (5.4)	*** (***)	216 (2.7)	217 (8.7)!	*** (***)	*** (***)	*** (***)	191 (7.1)!
Southeast	212 (2.8)	216 (3.7)	200 (3.9)	195 (4.0)	203 (1.9)	205 (5.0)	*** (***)	188 (5.8)	*** (***)	186 (5.6)
Central	226 (2.2)	226 (4.8)	217 (3.4)	*** (***)	215 (2.6)	221 (4.2)	*** (***)	*** (***)	*** (***)	200 (6.4)
West	222 (2.7)	217 (2.4)	214 (2.5)	201 (5.8)	211 (2.2)	223 (5.0)	*** (***)	*** (***)	*** (***)	203 (5.4)
STATES										
Alabama	208 (3.1)	212 (2.4)	198 (3.4)	200 (2.2)	201 (2.6)	203 (2.9)	210 (3.0)	193 (2.4)	194 (2.5)	191 (2.1)
Arizona	220 (3.3)	224 (3.1)	208 (2.7)	200 (4.4)	208 (1.5)	210 (2.1)	220 (3.0)	201 (3.6)	190 (3.4)	200 (1.8)
Arkansas	209 (2.1)	215 (2.3)	206 (1.9)	196 (2.6)	202 (1.3)	203 (2.6)	203 (2.6)	197 (2.6)	184 (2.7)	192 (2.0)
California	217 (2.1)	219 (3.3)	199 (3.9)	192 (3.8)	203 (2.5)	211 (2.5)	211 (3.8)	198 (2.9)	187 (4.9)	197 (2.0)
Colorado	226 (1.8)	226 (2.5)	206 (4.1)	196 (3.2)	210 (1.6)	224 (1.4)	218 (2.7)	202 (3.0)	193 (3.3)	203 (1.2)
Connecticut	235 (1.6)	225 (4.5)	220 (4.7)	203 (3.7)	217 (2.0)	228 (1.6)	219 (3.6)	208 (2.4)	196 (3.5)	208 (2.2)
Delaware	225 (2.3)	211 (4.7)	208 (2.5)	193 (3.8)	210 (1.8)	212 (3.0)	209 (4.9)	197 (2.6)	180 (4.0)	197 (1.2)
Dist. Columbia	194 (1.1)	200 (4.0)	185 (3.0)	185 (3.5)	188 (1.3)	177 (2.2)	180 (2.5)	165 (3.3)	165 (3.7)	163 (1.4)
Florida	220 (3.7)	221 (4.2)	198 (2.6)	197 (2.7)	207 (1.7)	209 (2.8)	209 (4.1)	193 (2.9)	186 (3.0)	194 (1.8)
Georgia	222 (3.1)	223 (4.4)	202 (3.5)	201 (3.4)	210 (2.5)	206 (2.1)	210 (4.3)	191 (3.5)	187 (3.2)	195 (2.0)
Hawaii	215 (2.1)	222 (4.2)	201 (2.1)	197 (5.2)	209 (2.2)	205 (2.2)	213 (3.5)	187 (4.0)	186 (3.3)	195 (2.1)
Idaho	224 (1.7)	223 (3.4)	216 (2.7)	200 (3.2)	211 (1.7)	219 (1.4)	222 (2.5)	206 (2.9)	192 (3.9)	205 (1.4)
Indiana	227 (1.9)	224 (2.7)	214 (4.1)	207 (4.1)	213 (1.7)	217 (2.0)	224 (3.3)	211 (2.6)	198 (3.2)	201 (1.8)
Iowa	232 (2.2)	233 (3.4)	221 (3.1)	207 (3.4)	220 (1.7)	229 (1.5)	227 (2.1)	215 (3.5)	203 (3.7)	212 (1.9)
Kentucky	220 (2.8)	221 (3.8)	206 (2.7)	202 (2.5)	210 (1.5)	213 (2.4)	218 (2.9)	204 (1.8)	196 (2.0)	200 (1.6)
Louisiana	206 (3.2)	215 (4.3)	192 (3.1)	191 (2.9)	200 (2.3)	195 (2.2)	204 (4.4)	185 (2.6)	178 (2.9)	183 (2.6)
Maine	238 (2.6)	233 (4.1)	220 (2.4)	214 (4.2)	221 (3.6)	229 (1.8)	233 (3.2)	212 (3.1)	202 (4.0)	212 (2.5)
Maryland	222 (1.9)	220 (3.2)	209 (3.6)	200 (3.2)	210 (1.9)	209 (2.1)	209 (3.9)	189 (3.3)	181 (3.6)	192 (1.8)
Massachusetts	231 (2.0)	228 (3.3)	216 (2.9)	190 (4.8)	213 (1.8)	226 (1.7)	224 (3.5)	211 (2.9)	181 (5.4)	206 (1.8)
Michigan	223 (2.5)	219 (3.7)	214 (3.9)	200 (5.5)	210 (2.5)	217 (2.7)	216 (4.1)	204 (4.1)	190 (6.0)	200 (2.5)
Minnesota	235 (1.7)	222 (3.8)	216 (3.2)	*** (***)	219 (1.4)	232 (2.0)	227 (2.9)	217 (2.1)	*** (***)	217 (1.4)
Mississippi	200 (2.1)	205 (3.7)	193 (2.9)	187 (2.4)	191 (2.2)	192 (1.9)	197 (3.2)	184 (2.8)	180 (3.3)	185 (2.0)
Missouri	227 (1.7)	224 (2.5)	218 (3.3)	209 (2.8)	213 (1.7)	220 (2.0)	220 (2.7)	209 (3.0)	199 (4.2)	200 (2.1)
Nebraska	226 (2.0)	227 (3.2)	216 (3.1)	*** (***)	215 (2.1)	221 (1.8)	223 (2.7)	212 (2.5)	*** (***)	209 (2.1)
New Hampshire	234 (1.8)	228 (4.1)	220 (4.0)	209 (4.5)	221 (2.5)	230 (2.0)	227 (2.7)	218 (2.5)	203 (4.3)	214 (2.8)
New Jersey	232 (2.2)	228 (6.2)	214 (4.0)	208 (5.1)	215 (2.6)	224 (2.0)	217 (3.1)	201 (2.9)	193 (5.8)	201 (2.7)
New Mexico	220 (3.0)	224 (3.4)	207 (4.1)	200 (2.9)	202 (2.0)	213 (2.9)	211 (4.0)	202 (3.1)	193 (3.5)	195 (1.8)
New York	224 (2.8)	224 (4.4)	208 (4.4)	210 (4.4)	207 (2.4)	216 (2.2)	213 (5.1)	195 (2.8)	193 (4.1)	194 (2.1)
North Carolina	216 (2.6)	216 (3.0)	204 (2.2)	201 (2.7)	206 (1.5)	207 (1.8)	206 (4.2)	191 (2.1)	187 (3.0)	190 (1.7)
North Dakota	232 (1.2)	231 (4.0)	219 (2.5)	*** (***)	217 (1.5)	229 (1.8)	228 (3.6)	219 (3.1)	*** (***)	214 (1.4)
Ohio	225 (1.9)	221 (3.5)	210 (3.2)	203 (3.3)	210 (2.0)	218 (1.8)	218 (3.9)	210 (2.1)	197 (3.1)	201 (1.8)
Oklahoma	223 (2.1)	223 (3.4)	211 (3.6)	207 (3.2)	215 (2.3)	217 (2.3)	217 (2.4)	205 (3.0)	200 (4.1)	207 (1.9)
Pennsylvania	227 (2.3)	232 (2.7)	218 (2.1)	210 (3.2)	215 (2.1)	220 (2.5)	229 (4.0)	209 (2.6)	200 (3.4)	202 (2.1)
Rhode Island	223 (2.6)	216 (3.3)	203 (3.3)	200 (2.9)	206 (2.1)	214 (1.8)	217 (3.4)	204 (3.4)	193 (3.6)	198 (2.6)
South Carolina	215 (2.1)	220 (3.6)	199 (3.4)	200 (2.7)	201 (1.9)	205 (1.9)	207 (3.9)	191 (2.1)	191 (3.2)	187 (2.4)
Tennessee	216 (2.3)	214 (3.8)	206 (3.3)	201 (3.0)	203 (1.6)	209 (2.7)	205 (4.6)	196 (2.8)	191 (2.9)	194 (1.6)
Texas	223 (2.6)	226 (2.9)	214 (2.6)	211 (3.3)	211 (1.7)	208 (2.4)	206 (5.2)	198 (3.4)	190 (3.5)	193 (1.9)
Utah	228 (1.4)	228 (3.7)	212 (4.5)	202 (4.3)	216 (1.7)	222 (1.3)	217 (2.8)	208 (2.8)	195 (4.3)	207 (1.4)
Virginia	227 (2.6)	214 (4.1)	208 (2.3)	198 (2.6)	211 (2.0)	216 (2.3)	209 (3.8)	200 (2.3)	188 (3.4)	197 (2.2)
West Virginia	220 (2.3)	220 (2.7)	209 (2.1)	196 (2.7)	204 (2.1)	212 (2.1)	215 (2.4)	202 (1.7)	190 (2.4)	198 (1.9)
Wisconsin	233 (2.0)	234 (2.7)	222 (3.3)	217 (4.8)	218 (2.2)	228 (2.1)	230 (2.8)	217 (2.3)	211 (3.8)	210 (1.8)
Wyoming	227 (2.0)	233 (2.5)	217 (2.6)	211 (2.9)	216 (1.6)	222 (1.7)	224 (2.1)	215 (2.5)	206 (3.4)	210 (1.7)
TERRITORY										
Guam	192 (1.6)	211 (3.5)	183 (4.2)	182 (4.5)	193 (1.7)	177 (1.7)	191 (5.2)	170 (2.6)	166 (4.0)	169 (1.2)

Descriptions of the content area scales are found in Chapter Three. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Numbers and Operations					Measurement				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	261 (1.3)	273 (1.1)	261 (1.4)	253 (1.8)	254 (1.7)	279 (2.3)	267 (1.5)	251 (1.8)	243 (2.6)	248 (2.2)
Northeast	284 (3.8)	271 (3.1)	263 (4.0)	252 (4.1)	254 (3.8)	283 (5.4)	264 (3.4)	254 (5.5)	238 (5.6)	246 (4.5)
Southeast	274 (1.8)	268 (1.9)	255 (2.1)	252 (4.2)	252 (4.0)	268 (3.0)	257 (3.0)	242 (3.1)	240 (5.7)	244 (6.1)
Central	286 (2.8)	277 (1.7)	270 (2.6)	*** (***)	261 (3.8)	284 (3.7)	270 (2.2)	261 (2.9)	*** (***)	258 (4.5)
West	282 (2.5)	277 (2.1)	257 (2.7)	252 (2.4)	252 (2.5)	281 (3.9)	274 (3.2)	249 (3.5)	245 (3.5)	247 (4.3)
STATES										
Alabama	267 (2.1)	265 (2.4)	252 (1.5)	247 (1.8)	243 (2.8)	258 (3.4)	255 (2.8)	234 (2.9)	231 (2.7)	226 (4.5)
Arizona	281 (1.4)	274 (1.6)	260 (1.6)	251 (2.4)	251 (2.5)	279 (2.6)	271 (2.8)	252 (2.9)	240 (3.4)	245 (4.5)
Arkansas	270 (2.0)	270 (2.0)	255 (2.0)	254 (2.3)	250 (3.3)	259 (2.3)	259 (2.5)	246 (2.0)	240 (3.1)	241 (4.8)
California	278 (2.2)	269 (2.2)	255 (2.2)	246 (2.2)	243 (3.0)	275 (2.2)	261 (2.4)	254 (3.0) >	235 (4.1)	236 (3.8)
Colorado	283 (1.4)	278 (1.8)	262 (1.6)	252 (2.7)	251 (2.7)	286 (1.8) >	277 (2.2)	256 (2.4)	249 (3.1)	251 (4.2)
Connecticut	290 (1.2)	277 (2.1)	265 (2.0)	251 (3.6)	255 (3.3)	293 (1.8) »	271 (3.0)	258 (2.5)	242 (4.7)	245 (2.6)
Delaware	277 (1.4)	272 (2.8)	257 (1.9)	253 (4.0)	255 (3.5)	272 (2.6)	263 (4.5)	246 (2.5)	244 (5.2)	243 (4.7)
Dist. Columbia	252 (1.5) >	249 (2.7)	235 (1.6)	234 (3.5)	237 (2.7)	233 (2.9)	229 (3.1)	210 (3.0)	210 (4.0)	217 (3.0)
Florida	272 (1.8)	271 (2.3)	256 (1.8)	249 (2.8)	251 (3.3)	266 (2.5) ..	262 (2.8)	245 (3.7)	236 (3.6)	233 (4.3)
Georgia	275 (2.2)	271 (1.9)	256 (1.4)	251 (2.0)	250 (2.7)	268 (3.0)	256 (3.9)	243 (2.1)	236 (3.3)	240 (4.1)
Hawaii	270 (1.4)	272 (2.0)	252 (1.9)	247 (3.4)	251 (2.3)	266 (2.0)	263 (2.2)	243 (2.2)	237 (3.8)	242 (3.5)
Idaho	284 (0.9)	281 (1.4)	270 (1.6)	257 (2.2)	255 (3.1)	284 (1.4) >	276 (2.5)	270 (2.9)	251 (3.6)	252 (6.4)
Indiana	284 (1.7)	278 (2.1)	263 (1.7)	254 (2.3)	249 (4.3)	285 (2.2)	274 (3.0)	258 (2.7)	247 (3.0)	246 (7.1)
Iowa	293 (1.3)	288 (1.5)	275 (1.4)	266 (2.4)	268 (2.6)	297 (1.7) »	292 (2.6) >	276 (1.9)	264 (4.0)	264 (4.1)
Kentucky	282 (1.4) >	273 (1.8)	260 (1.6)	251 (1.6)	246 (3.2)	278 (2.3) >	265 (3.3)	250 (2.2)	241 (2.3)	240 (3.6)
Louisiana	263 (2.5)	266 (1.9)	250 (1.9)	245 (2.2)	243 (4.0)	251 (3.2)	250 (3.0)	235 (2.4)	227 (3.0)	226 (5.4)
Maine	290 (1.5)	282 (1.6)	270 (1.9)	261 (2.8)	267 (3.1)	295 (2.2)	282 (3.0)	269 (2.0)	258 (3.5)	265 (4.2)
Maryland	280 (1.8)	272 (2.0)	257 (1.7)	246 (3.6)	249 (4.0)	278 (2.6)	262 (2.2)	243 (3.2)	232 (5.2)	239 (6.3)
Massachusetts	287 (1.2)	277 (1.8)	266 (1.4)	254 (3.2)	254 (2.6)	283 (1.9)	273 (2.4)	257 (3.1)	241 (5.4)	244 (4.1)
Michigan	279 (2.0)	274 (1.9)	261 (1.7)	253 (2.2)	254 (3.0)	279 (3.1)	270 (3.1)	253 (2.3)	245 (4.1)	244 (3.9)
Minnesota	289 (1.2)	285 (2.0)	273 (1.8)	259 (3.5)	268 (3.0)	295 (1.8) »	289 (2.0)	270 (2.9) >	254 (6.0)	267 (5.0) »
Mississippi	263 (1.7)	265 (2.0)	251 (1.6)	246 (2.0)	240 (2.5)	246 (2.3)	246 (4.3)	229 (2.3)	222 (2.9)	220 (4.7)
Missouri	282 (1.6)	277 (1.5)	266 (1.8)	257 (2.7)	252 (3.3)	281 (2.3)	276 (2.3)	264 (2.7)	252 (3.2)	251 (4.6)
Nebraska	288 (1.2)	282 (1.8)	272 (1.9)	249 (3.5)	257 (4.5)	292 (2.2)	281 (2.1)	263 (3.1)	245 (4.4)	254 (4.5)
New Hampshire	289 (1.3)	282 (1.7)	269 (1.2) >	261 (2.8)	264 (2.7)	292 (2.5)	283 (2.1) >	267 (1.5) >	258 (3.5)	265 (5.3)
New Jersey	287 (1.8)	278 (2.2)	265 (2.2)	260 (3.8)	256 (3.6)	282 (2.5)	270 (2.9)	256 (3.3)	249 (4.6)	238 (5.6)
New Mexico	276 (1.8)	268 (1.8)	253 (1.8)	249 (2.2)	249 (2.4) >	272 (2.3)	265 (2.4)	247 (2.6)	242 (2.7)	241 (2.9)
New York	282 (1.9)	276 (2.3)	262 (2.8)	249 (3.8)	245 (3.4)	276 (2.7)	267 (3.7)	252 (3.1)	232 (6.1)	236 (5.4)
North Carolina	273 (1.7)	270 (1.6) >	250 (1.9)	244 (2.5)	244 (4.1)	268 (2.9) >	263 (2.4) »	239 (2.4)	234 (2.9)	236 (5.0)
North Dakota	292 (1.3)	286 (1.4)	276 (1.9)	262 (4.3)	272 (3.9)	292 (1.8)	288 (2.8)	270 (2.7)	258 (6.9)	280 (6.2)
Ohio	282 (1.8)	277 (1.8)	264 (2.2)	248 (2.8)	252 (4.4)	279 (2.7)	268 (3.3)	259 (4.0)	237 (4.3)	240 (6.2)
Oklahoma	281 (1.6)	276 (2.1)	261 (1.9)	258 (3.4)	253 (4.1)	278 (2.5)	269 (2.7)	253 (3.9)	250 (4.1)	249 (5.7)
Pennsylvania	283 (1.9)	278 (1.9)	266 (1.7)	256 (2.7)	255 (3.8)	286 (1.9)	273 (2.4)	261 (2.5)	249 (3.7)	248 (6.1)
Rhode Island	279 (1.2)	277 (1.8)	261 (1.7)	249 (2.1)	244 (3.1)	277 (2.2)	268 (2.9)	254 (2.3)	240 (3.0)	229 (3.3)
South Carolina	276 (1.4)	273 (2.2)	254 (1.5)	255 (2.0)	252 (3.4)	270 (2.3)	266 (3.3)	243 (1.9)	243 (3.1)	241 (4.3)
Tennessee	272 (1.9)	272 (1.7)	258 (1.8)	252 (2.1)	251 (3.1)	264 (3.3)	259 (2.7)	245 (2.5)	239 (2.8)	237 (7.7)
Texas	282 (2.0)	276 (2.4)	255 (1.9)	252 (1.6)	247 (2.5)	281 (2.8) >	266 (3.2)	247 (3.0)	240 (2.3)	238 (2.3)
Utah	282 (1.1)	281 (1.3)	261 (2.4)	257 (3.3)	262 (2.9)	281 (1.3)	279 (3.1)	257 (3.5)	248 (4.2)	260 (3.4)
Virginia	285 (1.3)	277 (1.5) >	258 (1.6)	254 (2.2)	257 (2.8)	283 (2.3)	267 (2.7)	247 (2.4)	244 (3.4)	245 (4.2)
West Virginia	273 (1.8)	274 (1.4)	255 (1.5)	249 (1.9)	244 (3.3)	271 (2.2)	266 (2.3)	248 (2.4)	241 (2.9)	235 (2.6)
Wisconsin	288 (1.9)	285 (1.5)	272 (1.9)	258 (3.4)	260 (3.6)	291 (2.3)	283 (2.9)	270 (2.2)	253 (4.5)	256 (5.0)
Wyoming	283 (0.8)	280 (1.6)	269 (1.4)	259 (3.6)	259 (2.0)	285 (1.3)	281 (2.2)	270 (1.7) >	261 (4.3)	262 (3.0) »
TERRITORIES										
Guam	251 (2.1)	249 (3.2)	235 (2.3)	229 (2.9)	231 (2.2)	240 (3.3)	240 (3.2)	221 (2.9)	218 (3.8)	220 (2.9)
Virgin Islands	233 (2.6)	242 (3.0)	233 (1.7)	228 (2.7)	226 (2.1)	216 (2.8)	224 (4.4)	211 (2.7)	208 (2.8)	201 (3.4) «

Descriptions of the content area scales are found in Chapter Three. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Geometry					Data Analysis, Statistics, and Probability				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	272 (1.4)	264 (1.4)	254 (1.4)	246 (1.4)	248 (1.7)	281 (1.8)	273 (1.6)	254 (1.8)	246 (2.5)	248 (2.2)
Northeast	276 (4.2)	262 (3.0)	257 (4.1)	243 (4.1)	245 (2.6)	285 (4.7)	270 (3.8)	258 (4.8)	245 (5.5)	249 (4.4)
Southeast	264 (2.1)	257 (2.0)	246 (2.0)	243 (2.9)	245 (4.2)	271 (2.6)	267 (2.6)	246 (2.6)	244 (5.7)	247 (5.3)
Central	277 (2.6)	268 (1.6)	262 (2.0)	*** (***)	257 (4.2)	285 (3.3)	277 (2.3)	262 (3.1)	*** (***)	256 (4.4)
West	273 (2.5)	268 (3.4)	252 (2.6)	247 (2.4)	247 (3.1)	281 (3.1)	278 (2.7)	249 (3.4)	246 (3.4)	244 (3.5)
STATES										
Alabama	253 (2.7)	251 (2.3)	240 (2.3)	234 (2.5)	237 (3.9)	263 (3.2)	258 (2.9)	240 (2.7)	237 (2.4)	237 (4.0)
Arizona	271 (1.8)	262 (1.9)	253 (2.1)	243 (2.5)	249 (3.0)	279 (1.9)	272 (2.5)	255 (1.9)	242 (3.5)	241 (3.4)
Arkansas	256 (2.8)	257 (2.6)	245 (1.9)	242 (2.9)	243 (3.6)	265 (2.4)	264 (2.9)	245 (2.0)	242 (2.9)	239 (3.9)
California	272 (2.0)	266 (2.4)	248 (2.5)	244 (3.2)	243 (2.7)	275 (2.6)	266 (3.0)	249 (3.7)	236 (3.0)	233 (3.4)
Colorado	277 (1.4)	272 (1.7)	258 (1.7)	252 (2.3)	256 (3.2)	285 (1.8)	279 (2.9)	261 (2.5)	248 (3.2)	253 (3.4)
Connecticut	281 (1.3)	266 (2.0)	256 (1.6)	246 (3.3)	250 (2.5)	290 (1.5)	273 (2.3)	259 (2.3)	239 (4.3)	251 (3.0)
Delaware	268 (1.3)	262 (2.6)	246 (1.9)	247 (4.6)	243 (3.8)	276 (1.8)	271 (3.3)	250 (2.5)	245 (4.1)	241 (4.9)
Dist. Columbia	241 (1.9)	236 (2.1)	222 (2.6)	224 (3.3)	227 (3.0)	239 (3.2)	238 (2.9)	217 (1.7)	220 (3.8)	224 (4.0)
Florida	262 (1.9)	260 (2.1)	246 (1.9)	244 (2.6)	247 (2.6)	269 (2.2)	266 (2.4)	249 (2.2)	241 (3.4)	239 (4.7)
Georgia	265 (2.4)	257 (1.8)	244 (1.5)	240 (2.7)	245 (3.1)	272 (2.7)	265 (2.4)	250 (1.9)	242 (2.4)	239 (3.4)
Hawaii	266 (1.7)	265 (2.8)	247 (2.4)	245 (4.0)	249 (2.9)	262 (2.6)	263 (2.0)	237 (2.3)	233 (4.6)	234 (3.1)
Idaho	276 (1.2)	272 (1.6)	267 (1.6)	254 (2.2)	258 (2.8)	282 (1.4)	281 (1.8)	263 (2.1)	251 (2.5)	249 (5.2)
Indiana	278 (1.7)	271 (2.1)	258 (1.6)	248 (2.7)	250 (3.8)	288 (2.5)	279 (3.3)	262 (2.4)	252 (3.4)	247 (3.9)
Iowa	285 (1.6)	279 (1.6)	270 (1.5)	258 (2.8)	266 (3.8)	293 (1.5)	289 (2.4)	274 (1.7)	260 (3.0)	264 (4.6)
Kentucky	271 (1.7) >	260 (1.5)	249 (1.5)	243 (1.9)	244 (3.3)	279 (2.4)	272 (2.3)	254 (2.8)	245 (2.1)	240 (4.9)
Louisiana	251 (2.6)	254 (1.9)	237 (1.6)	234 (2.5)	237 (3.8)	255 (2.9)	262 (2.7)	239 (2.3)	234 (2.9)	230 (5.2)
Maine	281 (1.6)	277 (1.9)	264 (1.1)	257 (2.5)	269 (3.1)	294 (1.7)	287 (2.6)	268 (1.5)	261 (3.8)	269 (3.8)
Maryland	271 (2.0)	262 (2.3)	246 (2.3)	238 (4.0)	241 (3.7)	281 (1.7)	269 (3.6)	251 (2.3)	241 (4.3)	245 (4.6)
Massachusetts	277 (1.2)	264 (2.1)	258 (1.7)	248 (3.3)	245 (2.6)	288 (2.5)	274 (1.7)	261 (1.8)	245 (4.1)	243 (3.5)
Michigan	271 (2.4)	264 (2.4)	252 (1.6)	247 (1.9)	247 (3.7)	279 (2.3)	274 (2.1)	256 (2.4)	248 (2.6)	245 (4.6)
Minnesota	285 (1.1)	279 (1.9)	266 (2.3)	254 (5.1)	266 (3.2)	294 (1.3)	286 (2.6)	270 (2.8)	257 (4.6)	267 (4.9)
Mississippi	245 (1.7)	249 (2.1)	232 (1.7)	229 (2.1)	233 (3.2)	253 (2.3)	255 (3.0)	237 (2.8)	229 (2.4)	224 (4.2)
Missouri	275 (1.9)	269 (1.9)	261 (1.9)	251 (2.6)	255 (3.5)	284 (2.0)	277 (2.0)	262 (2.0)	252 (3.5)	251 (4.5)
Nebraska	283 (1.7)	276 (1.7)	264 (1.4)	250 (3.8)	254 (4.1)	288 (1.4)	283 (2.6)	266 (2.5)	243 (4.4)	256 (5.5)
New Hampshire	280 (1.6)	276 (2.0)	265 (1.7)	257 (3.1)	261 (3.3)	291 (1.9)	284 (4.1)	270 (1.7)	261 (2.6)	261 (3.6)
New Jersey	276 (1.8)	269 (2.5)	253 (2.6)	247 (3.8)	246 (3.7)	285 (2.2)	278 (3.5)	255 (3.2)	249 (5.2)	244 (5.0)
New Mexico	268 (1.6)	259 (1.7)	247 (1.5)	245 (2.1)	245 (2.1)	273 (2.2)	265 (2.0)	246 (1.8)	241 (2.4)	242 (3.0)
New York	272 (2.2)	266 (2.7)	251 (3.0)	242 (3.9)	240 (4.1)	282 (2.8)	274 (3.9)	257 (3.4)	240 (6.5)	235 (5.5)
North Carolina	265 (1.7)	260 (1.9)	245 (1.9)	239 (2.5)	240 (3.5)	273 (1.8) >	264 (2.1)	245 (2.0)	239 (2.5)	236 (4.3)
North Dakota	282 (1.4)	276 (2.5)	267 (2.0)	256 (4.4)	268 (3.1)	292 (1.4)	287 (2.7)	274 (2.5)	261 (4.6)	273 (4.3)
Ohio	271 (1.7)	266 (1.9)	256 (2.2)	241 (2.4)	244 (4.6)	283 (2.9)	277 (2.0)	259 (3.1)	242 (3.8)	253 (6.2)
Oklahoma	271 (1.5)	265 (2.0)	254 (1.9)	252 (3.1)	246 (3.8)	280 (2.6)	274 (2.3)	256 (2.3)	255 (3.0)	249 (5.3)
Pennsylvania	274 (1.8)	267 (2.1)	258 (2.2)	248 (3.0)	251 (4.2)	285 (2.0)	274 (2.7)	263 (1.9)	251 (3.7)	253 (4.6)
Rhode Island	269 (1.6)	262 (2.3)	253 (2.3)	240 (2.1)	241 (2.8)	280 (1.8)	275 (3.7)	253 (2.7)	239 (2.7)	233 (3.3)
South Carolina	267 (1.6)	262 (2.3)	246 (2.2)	244 (2.5)	246 (3.7)	273 (2.0)	269 (2.3)	243 (2.1)	245 (2.4)	241 (4.2)
Tennessee	260 (2.4)	259 (2.4)	246 (1.8)	239 (2.2)	240 (3.9)	270 (2.7)	269 (2.2)	250 (2.0)	244 (2.7)	238 (4.3)
Texas	276 (2.4)	267 (1.7)	253 (2.0)	247 (2.3)	246 (2.7)	283 (2.6)	273 (2.1)	251 (2.4)	244 (2.0)	238 (3.3)
Utah	274 (1.8)	273 (2.0)	257 (2.1)	253 (3.5)	257 (3.1)	282 (1.1)	280 (2.4)	260 (2.8)	254 (3.8)	257 (3.6)
Virginia	275 (1.6)	262 (1.9)	247 (1.5)	245 (2.2)	249 (2.9)	285 (1.7)	271 (2.6)	250 (2.0)	247 (2.6)	250 (4.7)
West Virginia	264 (1.6)	263 (1.6)	248 (1.4)	242 (1.9)	240 (2.8)	274 (1.9)	270 (1.5)	252 (1.8)	245 (2.1)	236 (4.2)
Wisconsin	280 (1.4)	278 (2.4)	265 (2.0)	251 (3.6)	251 (4.7)	290 (3.3)	287 (1.8)	272 (2.6)	253 (4.2)	252 (4.3)
Wyoming	278 (0.8)	274 (2.0)	265 (1.9)	259 (3.0)	264 (2.7) >>	283 (1.5)	280 (2.5)	264 (2.0)	255 (4.7)	260 (2.6) >
TERRITORIES										
Guam	245 (2.8)	244 (2.9)	240 (1.7)	231 (2.5)	233 (1.9)	237 (2.7)	232 (3.8)	213 (2.9)	208 (3.7) >	212 (2.5)
Virgin Islands	221 (2.5)	228 (2.6)	224 (2.3)	220 (2.0)	220 (1.7)	219 (3.8) >	232 (4.2)	209 (3.1)	212 (4.3) >	209 (2.5) >

Descriptions of the content area scales are found in Chapter Three

TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Algebra and Functions					Estimation				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	278 (1.7)	268 (1.7)	255 (1.4)	248 (1.9)	251 (1.6)	279 (1.9)	273 (2.9)	261 (2.4)	258 (3.3)	252 (3.5)
Northeast	281 (4.2)	265 (3.2)	259 (3.8)	246 (4.0)	251 (2.8)	284 (4.8)	*** (***)	254 (5.9)	*** (***)	*** (***)
Southeast	270 (2.0)	263 (2.7)	250 (1.8)	247 (4.0)	249 (3.5)	271 (3.1)	269 (5.0)	260 (3.6)	*** (***)	*** (***)
Central	283 (3.4)	272 (2.2)	262 (2.4)	*** (***)	257 (4.0)	281 (3.9)	278 (4.1)	269 (3.3)	*** (***)	*** (***)
West	278 (3.1)	272 (3.4)	251 (3.1)	247 (2.8)	247 (2.9)	277 (2.8)	276 (4.9)	259 (4.0)	*** (***)	*** (***)
STATES										
Alabama	262 (2.4)	259 (3.0)	247 (2.3)	241 (2.5)	238 (3.5)	266 (1.8)	263 (1.7)	256 (1.8)	251 (1.4)	251 (2.0)
Arizona	275 (1.8)	268 (2.5)	255 (1.8)	246 (2.4)	249 (3.5)	277 (1.2)	273 (1.4)	262 (1.7)	255 (2.8)	257 (2.3)
Arkansas	264 (2.5)	264 (2.6)	246 (2.1)	244 (3.0)	247 (3.1)	270 (2.0)	268 (2.1)	258 (1.4)	256 (2.2)	255 (3.0)
California	273 (2.6)	264 (2.5)	249 (3.8)	241 (2.5)	239 (3.4)	274 (1.7)	267 (1.6)	255 (2.3)	249 (2.1)	249 (2.6)
Colorado	280 (1.7)	272 (1.6)	261 (2.0)	249 (2.8)	251 (3.0)	280 (1.1)	275 (1.2)	265 (1.5)	257 (2.0)	258 (2.7)
Connecticut	284 (1.7)	271 (2.1)	257 (2.0)	241 (3.7)	248 (3.0)	285 (1.0)	274 (1.8)	266 (1.6)	253 (2.7)	259 (2.6)
Delaware	275 (2.4)	269 (2.3)	250 (2.0)	246 (3.9)	249 (5.6)	274 (1.3)	266 (2.1)	256 (1.7)	252 (3.0)	249 (2.8)
Dist. Columbia	249 (2.2)	240 (2.9)	227 (2.3)	228 (3.6)	231 (3.8)	248 (1.6)	245 (1.8)	234 (1.6)	235 (2.4)	237 (2.7)
Florida	268 (2.3)	269 (2.3)	253 (2.0)	245 (2.8)	241 (4.1)	271 (1.5)	267 (1.5)	258 (1.6)	252 (2.2)	254 (2.7)
Georgia	270 (2.3)	266 (2.3)	249 (1.9)	244 (2.4)	246 (3.9)	272 (1.5)	268 (1.9)	257 (1.4)	254 (2.0)	253 (2.6)
Hawaii	267 (1.9)	265 (2.8)	246 (1.8)	242 (3.8)	246 (2.6)	269 (1.5)	267 (1.4)	253 (1.4)	249 (3.1)	251 (2.0)
Idaho	280 (1.2)	278 (1.6)	267 (2.4)	253 (3.2)	255 (3.0)	279 (0.6)	277 (1.5)	269 (1.2)	260 (1.9)	260 (2.4)
Indiana	279 (1.9)	273 (2.0)	258 (2.1)	248 (2.9)	248 (3.5)	281 (1.1)	276 (2.0)	264 (1.4)	257 (2.0)	257 (2.8)
Iowa	288 (1.6)	281 (1.7)	270 (1.4)	258 (2.8)	266 (3.0)	288 (1.1)	284 (1.2)	275 (1.1)	266 (2.4)	272 (2.6)
Kentucky	279 (2.0) >	265 (2.0)	254 (2.0)	244 (2.3)	235 (4.0)	276 (1.1)	270 (1.4)	261 (1.3)	254 (1.3)	252 (3.0)
Louisiana	257 (2.8)	259 (2.2)	241 (2.0)	238 (3.1)	238 (4.0)	262 (2.3)	265 (1.7)	253 (1.4)	250 (1.8)	249 (2.8)
Maine	283 (1.5)	278 (2.0)	262 (1.3)	256 (2.9)	260 (4.2)	282 (1.5)	278 (1.3)	268 (1.2)	260 (2.5)	267 (2.1)
Maryland	279 (2.0)	264 (3.0)	247 (2.2)	239 (3.6)	248 (4.8)	274 (1.5)	267 (2.0)	254 (1.5)	246 (3.1)	248 (3.6)
Massachusetts	283 (1.8)	273 (3.0)	260 (1.7)	249 (2.8)	247 (3.0)	284 (1.2)	276 (1.7)	265 (1.5)	258 (2.4)	256 (2.8)
Michigan	278 (2.4)	270 (2.2)	257 (2.6)	248 (2.5)	247 (4.3)	276 (1.7)	270 (1.9)	260 (1.4)	256 (2.1)	256 (2.5)
Minnesota	290 (1.4)	283 (2.3)	268 (2.2)	255 (5.0)	270 (3.9)	289 (0.9)	286 (1.2)	277 (1.5)	265 (2.5)	274 (2.6)
Mississippi	254 (2.4)	255 (2.2)	237 (2.4)	233 (2.2)	231 (5.5)	265 (1.2)	265 (1.5)	254 (1.8)	250 (1.6)	247 (2.5)
Missouri	279 (2.1)	274 (1.6)	264 (2.2)	254 (2.8)	250 (4.0)	277 (1.3)	274 (1.5)	266 (1.4)	260 (2.0)	257 (2.9)
Nebraska	284 (1.8)	278 (2.6)	266 (2.2)	247 (3.7)	258 (4.4)	285 (1.0)	280 (1.6)	270 (1.6)	253 (3.3)	257 (3.0)
New Hampshire	284 (1.3)	275 (1.8)	265 (1.7)	254 (2.4)	260 (2.8)	284 (1.2)	278 (1.6)	270 (1.4)	262 (2.3)	264 (2.5)
New Jersey	282 (2.1)	276 (2.6)	260 (2.9)	253 (4.2)	256 (4.9)	283 (1.3)	272 (1.8)	267 (2.0)	260 (3.0)	259 (2.4)
New Mexico	270 (1.5)	263 (1.8)	248 (1.6)	242 (2.2)	243 (2.8)	274 (1.4)	269 (1.3)	259 (1.4)	254 (1.8)	254 (1.9)
New York	275 (2.0)	270 (3.3)	256 (2.9)	244 (4.3)	242 (5.1)	275 (1.6)	270 (2.2)	259 (2.1)	247 (3.8)	248 (3.6)
North Carolina	272 (1.9)	265 (1.9)	248 (2.1)	241 (2.7)	240 (4.6)	273 (1.2)	267 (1.5)	253 (1.7)	249 (2.5)	252 (2.8)
North Dakota	285 (1.4)	279 (3.4)	268 (2.7)	257 (5.0)	269 (4.5)	288 (0.9)	283 (1.8)	276 (1.8)	266 (3.9)	272 (3.0)
Ohio	279 (2.1)	270 (2.0)	258 (2.3)	244 (3.0)	251 (6.1)	277 (1.3)	273 (1.9)	264 (1.5)	252 (2.2)	254 (4.8)
Oklahoma	275 (1.6)	272 (2.1)	258 (1.9)	254 (3.1)	253 (6.7)	278 (1.3)	275 (1.8)	264 (1.8)	260 (2.3)	260 (3.5)
Pennsylvania	282 (1.9)	274 (2.2)	260 (1.7)	252 (3.2)	250 (4.0)	282 (1.6)	273 (1.8)	266 (1.4)	258 (2.3)	252 (2.9)
Rhode Island	277 (1.7)	273 (2.1)	254 (2.5)	246 (2.8)	241 (3.0)	277 (1.1)	274 (1.4)	262 (1.9)	254 (2.0)	254 (3.1)
South Carolina	272 (2.1)	268 (2.9)	246 (2.0)	248 (2.3)	247 (2.8)	272 (1.4)	271 (1.6)	256 (1.3)	256 (1.8)	253 (2.6)
Tennessee	266 (2.4)	264 (2.1)	250 (2.1)	244 (2.1)	241 (4.4)	272 (1.9)	268 (1.7)	259 (1.4)	255 (1.6)	252 (3.4)
Texas	281 (2.1) >	274 (1.9)	256 (1.9) >	249 (1.8) >	246 (2.9)	279 (1.6)	271 (1.3)	260 (1.3)	256 (1.3)	254 (1.9)
Utah	279 (1.5)	277 (2.1)	254 (2.0)	254 (3.3)	256 (3.3)	279 (0.9)	277 (1.0)	262 (1.8)	258 (3.6)	266 (2.3)
Virginia	283 (2.0)	270 (1.7)	251 (2.0)	246 (2.5)	251 (3.8)	281 (1.4)	274 (1.4)	261 (1.6)	256 (1.9)	256 (2.6)
West Virginia	270 (1.7)	266 (1.9)	251 (1.6)	241 (2.3)	236 (3.8)	271 (1.1)	269 (1.5)	259 (1.2)	253 (1.4)	250 (2.5)
Wisconsin	284 (1.7)	278 (2.0)	268 (2.2)	252 (3.3)	253 (4.4)	284 (1.0)	280 (1.2)	273 (1.9)	261 (3.1)	262 (3.4)
Wyoming	279 (1.4)	275 (2.3)	263 (1.8)	255 (4.1)	256 (3.9)	282 (1.1)	278 (1.9)	272 (1.1)	264 (3.4)	265 (2.2)
TERRITORIES										
Guam	248 (2.6)	249 (3.0)	229 (2.0)	225 (2.9)	226 (2.2)	251 (2.0)	250 (2.4)	241 (1.7)	234 (2.3)	238 (1.8)
Virgin Islands	225 (3.2)	230 (3.7)	220 (3.2)	217 (3.0)	219 (2.7)	235 (2.6)	240 (2.6)	230 (1.7)	228 (2.3)	227 (2.5)

Descriptions of the content area scales are found in Chapter Three.

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TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)

	Grade 8 - 1990									
	Numbers and Operations					Measurement				
PUBLIC SCHOOLS	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	278 (1.5)	271 (1.5)	259 (1.6)	247 (2.1)	243 (3.4)	272 (2.0)	264 (2.1)	249 (1.9)	236 (2.7)	234 (3.8)
Northeast	285 (3.0)	270 (3.6)	262 (2.8)	*** (***)	*** (***)	280 (5.0)	262 (4.5)	257 (3.1)	*** (***)	*** (***)
Southeast	277 (3.6)	267 (2.6)	252 (4.4)	243 (3.2)	236 (4.9)	267 (4.1)	258 (3.2)	238 (4.7)	229 (5.0)	221 (6.0)
Central	276 (3.0)	274 (3.6)	268 (2.3)	*** (***)	*** (***)	270 (4.6)	267 (4.9)	260 (3.3)	*** (***)	*** (***)
West	275 (2.8)	271 (2.7)	253 (2.7)	249 (4.0)	244 (5.3)	270 (3.7)	269 (3.5)	243 (3.6)	241 (4.4)	236 (5.8)
STATES										
Alabama	269 (1.8)	265 (1.9)	254 (1.7)	246 (2.3)	245 (3.3)	257 (2.2)	257 (2.4)	241 (2.0)	235 (3.6)	232 (4.8)
Arizona	276 (1.7)	271 (1.9)	256 (1.8)	246 (2.3)	248 (2.4)	270 (2.0)	263 (2.7)	248 (3.0)	234 (2.6)	241 (2.6)
Arkansas	273 (1.3)	271 (1.6)	256 (1.2)	253 (1.6)	242 (2.4)	266 (1.9)	264 (2.7)	248 (1.7)	241 (3.3)	230 (5.7)
California	274 (1.9)	266 (2.0)	249 (2.1)	244 (2.2)	242 (2.1)	267 (2.0)	260 (3.3)	239 (2.8)	236 (4.3)	232 (2.8)
Colorado	279 (1.3)	273 (1.3)	257 (1.5)	246 (2.5)	251 (2.9)	276 (1.9)	269 (1.9)	249 (2.3)	236 (3.3)	249 (3.2)
Connecticut	287 (1.1)	274 (1.9)	260 (2.0)	249 (3.4)	251 (3.7)	283 (1.5)	267 (2.6)	254 (3.1)	240 (4.2)	246 (4.9)
Delaware	279 (1.5)	269 (2.2)	254 (2.1)	251 (2.4)	249 (4.3)	272 (2.3)	266 (2.7)	248 (2.5)	238 (3.8)	239 (5.7)
Dist. Columbia	245 (1.7)	245 (2.1)	232 (1.7)	234 (3.1)	231 (2.1)	228 (2.2)	228 (2.7)	218 (2.1)	216 (4.1)	213 (3.6)
Florida	271 (1.7)	267 (1.7)	251 (1.5)	244 (2.6)	246 (2.8)	263 (2.0)	258 (2.5)	242 (2.1)	235 (4.1)	240 (2.9)
Georgia	275 (2.0)	271 (1.8)	255 (1.9)	249 (2.1)	244 (3.4)	267 (2.3)	262 (2.3)	240 (2.3)	238 (2.6)	235 (4.7)
Hawaii	266 (1.4)	266 (1.9)	247 (1.5)	242 (3.0)	242 (2.4)	260 (1.6)	259 (2.4)	241 (2.1)	234 (3.8)	230 (3.3)
Idaho	282 (1.2)	278 (1.6)	265 (1.6)	255 (2.5)	259 (3.7)	278 (1.5)	270 (2.3)	260 (2.0)	245 (3.3)	253 (5.2)
Indiana	281 (1.7)	276 (1.7)	264 (1.4)	256 (2.9)	248 (3.3)	277 (2.4)	270 (2.6)	255 (2.3)	245 (3.9)	244 (4.0)
Iowa	289 (1.6)	287 (1.2)	275 (1.7)	263 (3.2)	273 (3.1)	284 (2.6)	281 (2.0)	267 (2.3)	252 (4.9)	259 (5.6)
Kentucky	272 (2.0)	273 (1.5)	257 (1.3)	247 (2.1)	244 (3.0)	265 (2.6)	265 (2.1)	251 (1.5)	236 (2.5)	235 (3.9)
Louisiana	261 (1.9)	262 (1.4)	248 (2.0)	244 (2.2)	245 (2.3)	248 (2.3)	251 (2.8)	236 (2.0)	230 (3.2)	235 (4.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	276 (1.7)	266 (2.2)	252 (1.5)	249 (3.4)	251 (2.4)	272 (2.4)	258 (2.9)	240 (1.9)	239 (4.4)	237 (5.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	279 (1.6)	274 (1.9)	258 (1.6)	251 (2.5)	254 (2.2)	272 (2.0)	265 (2.2)	250 (2.3)	245 (3.2)	244 (4.6)
Minnesota	288 (1.4)	285 (1.7)	268 (1.9)	256 (4.0)	262 (3.0)	281 (1.7)	282 (1.8)	258 (2.5)	248 (4.1)	248 (3.8)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	288 (1.4)	281 (1.6)	271 (1.8)	256 (4.8)	262 (3.6)	285 (2.0)	275 (2.1)	262 (2.8)	242 (6.6)	254 (5.4)
New Hampshire	285 (1.2)	276 (2.2)	263 (1.2)	259 (2.7)	257 (3.3)	283 (1.9)	271 (2.5)	260 (1.8)	263 (4.2)	252 (3.9)
New Jersey	285 (1.4)	273 (2.2)	265 (1.9)	256 (2.6)	256 (2.7)	280 (1.7)	268 (3.0)	257 (2.2)	244 (3.9)	245 (3.1)
New Mexico	274 (1.6)	266 (1.7)	250 (1.8)	245 (1.7)	235 (2.7)	271 (2.3)	257 (2.5)	247 (1.4)	236 (2.7)	229 (3.0)
New York	276 (1.3)	268 (2.1)	255 (2.1)	245 (3.0)	248 (3.2)	269 (2.1)	259 (3.3)	246 (3.6)	232 (3.5)	236 (5.2)
North Carolina	268 (1.9)	262 (1.7)	248 (1.3)	243 (1.8)	235 (2.9)	256 (2.3)	249 (2.1)	235 (2.0)	225 (2.6)	221 (3.7)
North Dakota	293 (1.5)	289 (2.3)	279 (2.4)	259 (5.2)	267 (3.8)	287 (2.1)	279 (3.4)	273 (3.2)	244 (5.0)	265 (6.8)
Ohio	279 (1.7)	275 (1.7)	261 (1.2)	250 (2.2)	242 (2.9)	270 (1.7)	265 (2.2)	253 (1.8)	238 (3.1)	232 (5.2)
Oklahoma	277 (1.7)	272 (1.8)	259 (1.3)	255 (3.2)	250 (3.8)	269 (2.2)	262 (3.3)	247 (1.8)	244 (4.8)	246 (5.3)
Pennsylvania	284 (2.1)	273 (1.9)	261 (1.6)	253 (3.0)	246 (4.2)	281 (2.6)	268 (2.7)	252 (2.3)	242 (4.6)	243 (7.7)
Rhode Island	278 (1.1)	271 (2.2)	256 (1.1)	246 (2.3)	241 (2.4)	270 (1.9)	264 (2.5)	250 (2.1)	234 (3.3)	230 (3.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	277 (1.5)	271 (2.1)	253 (1.8)	248 (1.9)	248 (2.5)	270 (1.9)	258 (3.0)	244 (2.2)	240 (2.5)	237 (3.2)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	283 (1.9)	269 (1.7)	257 (1.4)	247 (2.2)	252 (2.4)	274 (2.4)	266 (2.4)	247 (2.1)	235 (2.7)	244 (3.4)
West Virginia	273 (1.6)	268 (1.6)	254 (1.2)	247 (1.9)	245 (3.0)	267 (2.6)	257 (2.3)	248 (1.6)	235 (2.4)	237 (4.8)
Wisconsin	287 (1.9)	281 (1.7)	273 (1.5)	257 (3.5)	258 (3.4)	283 (2.3)	276 (2.2)	268 (2.4)	251 (4.6)	252 (5.0)
Wyoming	283 (1.1)	278 (1.2)	267 (1.4)	259 (2.2)	250 (2.8)	280 (1.3)	274 (1.8)	259 (2.4)	252 (2.9)	241 (4.2)
TERRITORIES										
Guam	250 (1.5)	256 (2.6)	235 (1.9)	230 (2.6)	233 (2.1)	240 (2.3)	241 (2.8)	224 (1.6)	216 (4.4)	221 (2.9)
Virgin Islands	231 (2.3)	238 (3.0)	230 (1.9)	221 (2.5)	226 (2.1)	216 (2.8)	225 (2.9)	214 (3.0)	209 (4.0)	218 (3.1)

Descriptions of the content area scales are found in Chapter Three.

TABLE 4.13 | Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Geometry					Data Analysis, Statistics, and Probability				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	271 (1.7)	262 (1.9)	253 (1.5)	241 (2.1)	243 (3.3)	276 (1.9)	269 (2.0)	254 (2.0)	238 (2.3)	236 (4.0)
Northeast	278 (3.6)	265 (3.7)	259 (2.8)	*** (***)	*** (***)	287 (4.0)	272 (3.4)	262 (3.2)	*** (***)	*** (***)
Southeast	265 (3.5)	255 (2.7)	243 (4.0)	236 (3.8)	234 (5.4)	272 (4.0)	263 (3.1)	244 (5.2)	232 (3.7)	225 (6.1)
Central	268 (3.8)	262 (3.7)	261 (2.7)	*** (***)	*** (***)	272 (3.7)	271 (4.6)	263 (2.4)	*** (***)	*** (***)
West	270 (2.9)	266 (3.7)	250 (2.4)	246 (3.5)	245 (5.1)	274 (3.4)	272 (3.8)	248 (3.6)	242 (4.5)	237 (6.3)
STATES										
Alabama	260 (2.2)	254 (2.9)	242 (1.8)	236 (2.5)	240 (3.6)	264 (2.3)	260 (2.4)	243 (2.2)	234 (2.8)	233 (4.1)
Arizona	268 (1.5)	260 (2.0)	249 (1.9)	240 (2.1)	243 (2.1)	273 (2.4)	266 (2.3)	249 (2.9)	237 (3.3)	237 (4.0)
Arkansas	263 (1.4)	262 (2.3)	246 (1.2)	243 (1.9)	239 (2.4)	266 (2.5)	266 (2.0)	249 (2.0)	241 (2.7)	234 (2.9)
California	270 (2.1)	259 (2.4)	245 (2.2)	244 (2.4)	242 (2.4)	273 (2.2)	261 (2.9)	243 (2.4)	233 (3.8)	232 (3.1)
Colorado	275 (1.4)	268 (1.9)	254 (2.2)	247 (2.4)	249 (2.9)	280 (1.3)	275 (1.4)	257 (2.8)	245 (3.5)	249 (3.0)
Connecticut	280 (1.2)	263 (2.1)	253 (1.8)	240 (3.0)	250 (3.7)	286 (1.2)	274 (2.6)	256 (2.3)	238 (4.1)	248 (5.0)
Delaware	269 (2.0)	258 (2.0)	247 (2.0)	238 (3.0)	241 (3.8)	277 (2.3)	268 (2.8)	247 (2.1)	243 (3.5)	245 (5.4)
Dist. Columbia	237 (1.9)	232 (2.7)	224 (1.5)	222 (2.7)	218 (3.6)	235 (3.0)	236 (2.4)	211 (1.5)	212 (3.3)	211 (2.9)
Florida	262 (1.7)	257 (1.8)	242 (1.9)	233 (3.2)	241 (3.4)	269 (2.2)	267 (2.7)	242 (3.0)	232 (3.4)	241 (4.7)
Georgia	269 (2.3)	263 (2.0)	246 (1.8)	247 (2.4)	242 (3.2)	276 (2.9)	270 (2.2)	248 (2.3)	243 (2.2)	239 (4.0)
Hawaii	262 (1.4)	261 (1.8)	242 (1.5)	237 (3.2)	241 (3.2)	257 (2.2)	257 (2.5)	230 (2.5)	221 (4.5)	222 (3.4)
Idaho	275 (1.2)	271 (1.7)	261 (2.0)	253 (3.2)	255 (3.4)	282 (1.5)	277 (1.6)	264 (1.8)	252 (3.0)	247 (3.9)
Indiana	274 (1.8)	267 (1.7)	258 (1.3)	250 (2.5)	249 (3.5)	281 (1.9)	274 (2.3)	261 (1.9)	248 (5.1)	247 (3.8)
Iowa	281 (1.9)	277 (1.8)	266 (1.9)	258 (4.0)	264 (4.6)	287 (1.8)	284 (1.7)	272 (2.0)	260 (3.4)	265 (3.4)
Kentucky	263 (1.9)	265 (1.6)	250 (1.4)	236 (2.4)	243 (3.5)	271 (2.3)	271 (1.9)	254 (1.8)	238 (2.1)	240 (3.7)
Louisiana	250 (2.2)	250 (1.8)	239 (1.9)	230 (2.7)	235 (3.5)	253 (2.8)	255 (2.0)	239 (2.3)	228 (3.1)	228 (3.6)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	270 (2.0)	258 (2.1)	242 (2.1)	241 (2.9)	245 (2.9)	273 (2.3)	264 (2.5)	248 (1.9)	241 (4.2)	245 (2.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	270 (1.4)	263 (1.8)	254 (1.9)	245 (2.3)	251 (3.0)	275 (1.8)	271 (2.3)	255 (2.9)	246 (3.4)	244 (5.8)
Minnesota	281 (1.4)	278 (1.7)	261 (1.8)	250 (3.9)	259 (3.6)	289 (1.6)	285 (1.6)	267 (2.0)	254 (4.3)	258 (3.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	283 (1.6)	276 (1.6)	263 (1.9)	249 (5.5)	259 (4.4)	290 (1.5)	279 (1.8)	266 (2.0)	255 (6.1)	254 (4.4)
New Hampshire	280 (1.5)	274 (1.6)	260 (1.2)	259 (3.1)	256 (3.5)	285 (1.7)	279 (2.3)	263 (1.4)	254 (3.5)	255 (5.6)
New Jersey	277 (1.4)	266 (2.6)	255 (1.9)	249 (2.9)	251 (2.9)	283 (1.7)	274 (2.6)	259 (2.3)	247 (3.2)	247 (3.6)
New Mexico	269 (1.6)	260 (1.5)	250 (1.0)	245 (2.0)	241 (2.3)	272 (2.4)	263 (2.6)	243 (1.6)	234 (1.9)	226 (4.3)
New York	272 (1.5)	262 (2.8)	252 (2.1)	243 (3.1)	242 (4.2)	277 (1.9)	268 (3.1)	254 (2.5)	239 (3.7)	241 (4.6)
North Carolina	262 (1.9)	255 (1.7)	241 (1.4)	235 (1.9)	234 (2.5)	263 (2.2)	262 (3.0)	237 (2.4)	229 (2.5)	225 (4.8)
North Dakota	286 (1.9)	278 (2.1)	267 (2.5)	253 (4.7)	264 (4.3)	292 (1.6)	288 (2.6)	278 (3.3)	259 (5.3)	264 (4.3)
Ohio	269 (1.5)	264 (1.7)	254 (1.2)	245 (2.6)	240 (3.1)	277 (2.0)	272 (1.7)	259 (1.6)	249 (2.9)	240 (4.7)
Oklahoma	270 (1.7)	260 (1.8)	250 (1.5)	246 (3.4)	250 (4.1)	275 (2.7)	268 (2.9)	254 (2.1)	247 (4.0)	248 (5.5)
Pennsylvania	276 (2.3)	268 (1.9)	254 (1.8)	246 (3.0)	241 (4.7)	284 (2.4)	272 (2.4)	256 (1.6)	245 (3.7)	243 (4.9)
Rhode Island	269 (1.5)	260 (2.1)	248 (1.8)	237 (3.3)	235 (2.9)	276 (1.2)	265 (2.5)	250 (1.3)	236 (2.7)	228 (3.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	272 (1.6)	264 (2.3)	249 (1.8)	244 (2.0)	248 (2.6)	275 (1.8)	271 (3.5)	244 (2.7)	240 (2.9)	237 (4.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	276 (2.2)	263 (1.9)	248 (1.6)	241 (2.5)	245 (3.1)	283 (2.4)	268 (3.5)	250 (2.3)	238 (2.7)	243 (4.2)
West Virginia	266 (1.7)	262 (2.1)	248 (1.2)	241 (1.9)	242 (4.0)	271 (1.9)	265 (2.6)	251 (1.7)	238 (2.9)	238 (3.9)
Wisconsin	281 (2.0)	276 (1.7)	267 (1.7)	252 (3.5)	252 (4.6)	288 (2.1)	281 (2.1)	271 (1.6)	252 (4.0)	248 (3.5)
Wyoming	277 (0.9)	275 (1.3)	263 (1.5)	253 (2.2)	247 (3.0)	281 (1.2)	279 (1.7)	263 (1.4)	258 (2.9)	247 (3.0)
TERRITORIES										
Guam	246 (1.7)	252 (3.3)	233 (2.1)	226 (2.6)	227 (2.2)	229 (1.9)	234 (3.8)	207 (2.9)	188 (4.9)	206 (3.5)
Virgin Islands	222 (2.7)	227 (3.3)	224 (3.1)	221 (4.2)	221 (1.7)	198 (3.6)	216 (5.3)	199 (2.5)	184 (6.3)	192 (4.1)

Descriptions of the content area scales are found in Chapter Three.

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TABLE 4.13 | **Average Proficiency in Mathematics Content Areas by Parents' Highest Level of Education (continued)**

PUBLIC SCHOOLS	Grade 8 - 1990				
	Algebra and Functions				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	273 (1.6)	265 (1.7)	254 (1.5)	240 (1.8)	239 (3.2)
Northeast	280 (3.4)	265 (3.8)	258 (3.2)	*** (***)	*** (***)
Southeast	273 (3.4)	262 (3.0)	248 (4.1)	238 (3.1)	233 (4.4)
Central	269 (3.8)	266 (3.6)	260 (2.1)	*** (***)	*** (***)
West	272 (2.8)	266 (3.1)	248 (2.5)	243 (3.5)	240 (5.5)
STATES					
Alabama	261 (1.7)	259 (2.5)	246 (2.0)	238 (2.9)	235 (3.9)
Arizona	271 (1.9)	264 (2.2)	250 (2.2)	237 (3.0)	239 (2.1)
Arkansas	264 (2.0)	262 (1.8)	246 (1.5)	239 (1.9)	238 (3.5)
California	269 (2.0)	263 (2.1)	248 (1.9)	241 (2.8)	239 (2.2)
Colorado	276 (1.4)	270 (1.6)	253 (1.8)	240 (2.8)	248 (2.8)
Connecticut	282 (1.4)	267 (2.6)	255 (2.5)	242 (3.3)	244 (4.4)
Delaware	274 (1.8)	264 (2.4)	247 (2.0)	242 (3.2)	242 (3.8)
Dist. Columbia	243 (2.2)	243 (2.3)	228 (1.9)	231 (2.9)	223 (3.5)
Florida	267 (1.8)	263 (1.8)	247 (2.0)	237 (3.2)	239 (3.1)
Georgia	270 (2.6)	267 (2.1)	247 (2.0)	242 (2.7)	235 (5.1)
Hawaii	260 (1.6)	258 (2.4)	239 (2.0)	234 (3.6)	234 (3.2)
Idaho	278 (1.8)	274 (1.7)	259 (1.8)	249 (3.4)	250 (3.7)
Indiana	276 (1.7)	270 (1.7)	258 (1.5)	251 (3.3)	243 (4.3)
Iowa	281 (1.6)	280 (1.5)	266 (2.0)	256 (3.7)	265 (2.8)
Kentucky	268 (2.1)	269 (1.6)	252 (1.5)	239 (2.5)	243 (3.3)
Louisiana	254 (2.3)	255 (1.9)	242 (2.2)	235 (2.9)	232 (2.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	275 (1.9)	266 (2.3)	247 (1.7)	245 (3.9)	251 (2.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	274 (1.6)	268 (1.8)	255 (1.7)	248 (3.0)	253 (3.4)
Minnesota	283 (1.8)	279 (2.1)	261 (1.9)	251 (4.0)	260 (3.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	282 (1.4)	276 (1.5)	264 (2.0)	250 (5.3)	252 (3.7)
New Hampshire	282 (1.3)	275 (1.8)	260 (1.5)	251 (3.1)	251 (3.2)
New Jersey	280 (1.7)	267 (2.1)	259 (1.9)	250 (3.0)	249 (3.9)
New Mexico	272 (1.8)	264 (2.5)	247 (1.5)	241 (2.3)	236 (3.3)
New York	272 (1.4)	264 (2.7)	252 (1.9)	244 (3.4)	241 (3.5)
North Carolina	265 (2.1)	259 (2.3)	243 (1.6)	236 (2.1)	228 (4.3)
North Dakota	284 (1.5)	276 (2.0)	265 (2.7)	253 (6.3)	256 (3.4)
Ohio	272 (1.7)	268 (1.6)	256 (1.4)	246 (2.6)	239 (3.5)
Oklahoma	272 (1.6)	264 (2.0)	254 (1.8)	251 (3.3)	246 (4.3)
Pennsylvania	279 (2.2)	270 (2.1)	254 (2.1)	247 (3.4)	241 (4.6)
Rhode Island	275 (1.3)	267 (2.6)	252 (1.7)	240 (2.6)	237 (2.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	272 (1.7)	266 (2.3)	247 (2.3)	241 (1.8)	238 (3.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	281 (2.1)	269 (1.8)	252 (1.5)	243 (3.4)	249 (2.9)
West Virginia	269 (1.7)	261 (2.5)	248 (1.2)	240 (2.3)	233 (3.9)
Wisconsin	281 (2.0)	272 (1.3)	264 (1.7)	249 (3.4)	254 (3.5)
Wyoming	279 (1.3)	274 (1.5)	261 (1.8)	253 (3.4)	244 (3.3)
TERRITORIES					
Guam	241 (2.2)	248 (3.2)	225 (2.3)	220 (3.3)	219 (2.4)
Virgin Islands	221 (2.3)	227 (4.7)	222 (2.1)	210 (3.0)	215 (2.6)

Descriptions of the content area scales are found in Chapter Three.

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CHAPTER FIVE

Student Performance on Constructed-Response Questions for the Nation and the States

Overview

As part of NAEP's 1992 mathematics assessment, students were asked to write out their answers to a number of questions. The use of constructed-response formats across the content areas provides an opportunity to examine students' work from a different perspective than that of the multiple-choice questions. Moreover, students' answers to constructed-response questions can often provide important information and context for interpreting aggregate information about mathematics proficiency.

The bulk of constructed-response questions were designed to require relatively short answers of a few sentences. For the first time, however, NAEP's 1992 mathematics assessment included some extended-response questions which required deeper thought and more elaborate responses. Both the regular- and the extended-response questions were evaluated by professional readers in accordance with guidelines established by NAEP.

This chapter includes examples of regular and extended-response questions administered at each of the three grades levels in the 1992 assessment. In addition, it presents an overview of the students' performance on the constructed-response questions as compared to their performance on the multiple-choice questions.

In general, sets of example questions are presented followed by tables containing national and state data.

TABLE 5.1 Number of Regular Constructed-Response and Multiple-Choice Questions by Content Area

	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Grade 4						
Regular Constructed-Response	54	20	8	12	9	5
Multiple-Choice	96	41	21	14	10	10
Total: Regular and Multiple-Choice	150	61	29	26	19	15
Extended Constructed-Response	5					
Grade 8						
Regular Constructed-Response	60	15	12	15	11	7
Multiple-Choice	117	41	19	20	16	21
Total: Regular and Multiple-Choice	177	56	31	35	27	28
Extended Constructed-Response	6					
Grade 12						
Regular Constructed-Response	58	15	10	10	12	11
Multiple-Choice	115	28	18	21	16	32
Total: Regular and Multiple-Choice	173	43	28	31	28	43
Extended Constructed-Response	6					

Note: In addition, the national and state assessments included a special assessment in estimation. The multiple-choice questions used in conjunction with the paced audiotape to measure estimation are not included in this table. There were 20 estimation questions at grade 4, and 22 at grades 8 and 12. The counts presented reflect the questions included in the Chapter Five analyses.

EXAMPLE REGULAR CONSTRUCTED-RESPONSE QUESTIONS WITH NATIONAL RESULTS

EXAMPLE 1: Numbers and Operations

Overall Percent Correct*
Grade 4 – 22 (1.4)
Grade 8 – 59 (1.3)

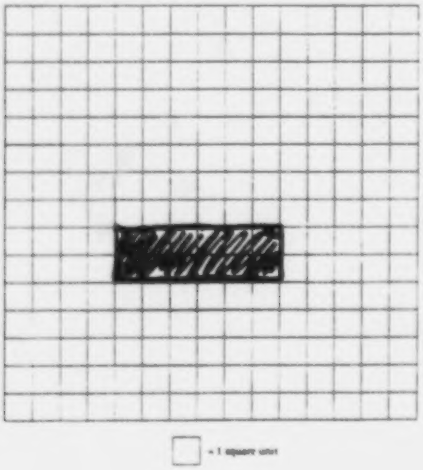
Jill needs to earn $45.00 for a class trip. She earns $2.00 each day on Mondays, Tuesdays, and Wednesdays, and $3.00 each day on Thursdays, Fridays, and Saturdays. She does not work on Sundays. How many weeks will it take her to earn $45.00 ?

Answer: 3 weeks

EXAMPLE 2: Measurement

Overall Percent Correct*
Grade 4 – 42 (1.4)
Grade 8 – 66 (1.5)

On the grid below, draw a rectangle with an area of 12 square units.



(One possible answer)

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*The standard errors of the estimated percentages appear in parentheses.

EXAMPLE 3: Data Analysis, Statistics, and Probability

Overall Percent Correct*
Grade 4 – 24 (1.5)
Grade 8 – 59 (1.3)

Steve was asked to pick two marbles from a bag of yellow marbles and blue marbles. One possible result was one yellow marble first and one blue marble second. He wrote this result in the table below. List all of the other possible results that Steve could get.

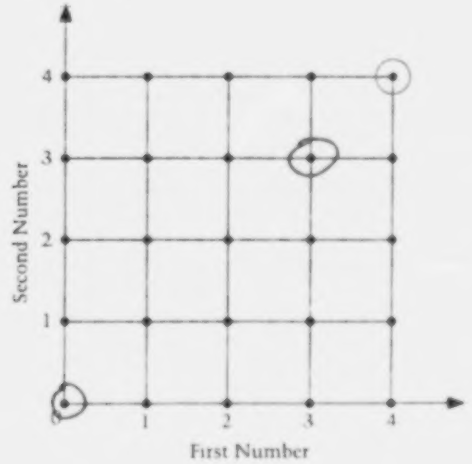
y stands for one yellow marble.
b stands for one blue marble.

First Marble	Second Marble
y	b
y	y
b	b
b	y

EXAMPLE 4: Algebra and Functions

Overall Percent Correct*
Grade 4 – 38 (1.6)
Grade 8 – 75 (1.3)

On the grid below, the dot at (4, 4) is circled. Circle two other dots where the first number is equal to the second number.



(One possible response)

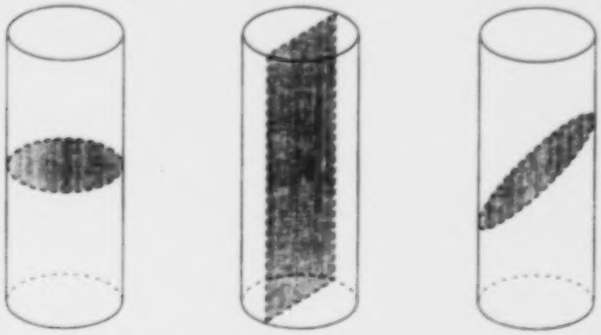
---

* The standard errors of the estimated percentages appear in parentheses.

EXAMPLE 5: Geometry

Each of the cylinders shown below was cut in a different way. The shaded part shows the shape of the cut. Under each figure, write the name of the shape of the cut.

Overall Percent Correct *
Grade 8 – 48 (1.3)

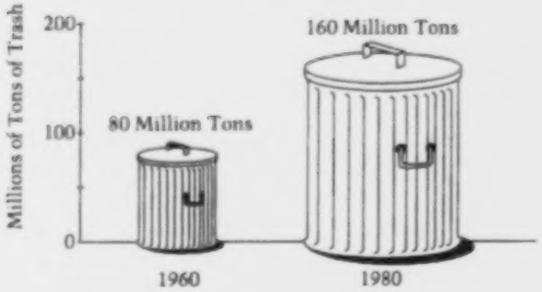


Answer: circle   Answer: rectangle   Answer: oval

EXAMPLE 6: Data Analysis, Statistics, and Probability

Overall Percent Correct *
Grade 8 – 8 (0.8)

THE UNITED STATES
IS PRODUCING MORE TRASH



The pictograph shown above is misleading. Explain why.

Answer: Both the width and the height of the 1980 can have been doubled. Only the height should have been doubled.

(One possible response)

---

*The standard errors of the estimated percentages appear in parentheses.

EXAMPLE 7: Algebra and Functions

Overall Percent Correct*

Grade 8 – 49 (1.6)

$$54 < 3 \times \square$$

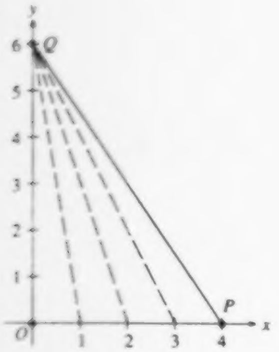
Write two numbers that could be put in the ☐ to make the number sentence above true.

Answer: 1, 10 (one possible answer)

EXAMPLE 8: Measurement

Overall Percent Correct*

Grade 12 – 29 (1.6)



In the figure above, point Q is fixed and point P starts at 4 and moves left along the x-axis. As P moves left along the x-axis toward O, the area of $\triangle POQ$ changes.

Use the information given to complete the table below to show how the area of $\triangle POQ$ changes as P goes from the position shown to the origin O.

x - coordinate of P	Area of $\triangle POQ$
4	12
3	9
2	6
1	3
0	0

---

*The standard errors of the estimated percentages appear in parentheses.

TABLE 5.2 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Jill's Class Trip"

Grade 4

	Correct	Incorrect	No Response
Nation	22 (1.4)	70 (1.5)	8 (0.9)
Northeast	28 (3.9)	66 (3.4)	7 (1.5)
Southeast	16 (3.0)	77 (3.7)	7 (1.9)
Central	22 (2.4)	70 (2.4)	7 (2.0)
West	23 (2.6)	66 (2.5)	11 (1.8)
White	26 (1.8)	66 (1.8)	8 (1.0)
Black	11 (2.8)	80 (3.1)	8 (2.1)
Hispanic	13 (2.1)	77 (3.1)	10 (2.1)
Male	21 (1.7)	69 (1.8)	10 (1.3)
Female	23 (2.0)	71 (2.1)	6 (1.1)
Advantaged Urban	34 (3.7)	60 (3.5)	6 (1.8)
Disadvantaged Urban	10 (2.0)	76 (3.8)	14 (3.7)
Extreme Rural	19 (3.0)	67 (3.5)	14 (3.2)
Other	22 (1.7)	71 (1.8)	6 (0.9)
Public	22 (1.6)	70 (1.7)	8 (1.0)
Catholic and Other Private	23 (2.4)	70 (2.7)	7 (1.7)

Grade 8

	Correct	Incorrect	No Response
Nation	59 (1.3)	38 (1.2)	4 (0.4)
Northeast	59 (2.7)	38 (2.3)	4 (0.9)
Southeast	53 (2.7)	43 (2.2)	4 (1.0)
Central	63 (2.6)	33 (2.3)	4 (1.0)
West	61 (2.8)	37 (3.0)	3 (0.6)
White	65 (1.6)	33 (1.6)	2 (0.4)
Black	37 (3.6)	53 (3.2)	10 (2.0)
Hispanic	51 (3.2)	46 (3.3)	4 (0.9)
Male	56 (1.6)	40 (1.6)	4 (0.8)
Female	62 (1.7)	35 (1.7)	3 (0.7)
Advantaged Urban	67 (5.2)	32 (4.8)	1 (0.5)
Disadvantaged Urban	42 (4.8)	43 (4.5)	15 (2.6)
Extreme Rural	62 (5.3)	37 (5.1)	2 (0.5)
Other	59 (1.8)	38 (1.6)	3 (0.5)
Public	58 (1.4)	38 (1.3)	4 (0.5)
Catholic and Other Private	66 (2.9)	32 (2.7)	2 (0.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.3 | **Percentage of Correct Responses to Regular Constructed-Response Question, "Jill's Class Trip"**

PUBLIC SCHOOLS	Grade 4 - 1992		
	Correct	Incorrect	No Response
NATION	22 (1.6)	70 (1.7)	8 (1.0)
Northeast	27 (4.4)	67 (3.9)	6 (1.4)
Southeast	16 (3.4)	77 (4.1)	7 (2.0)
Central	23 (2.8)	70 (3.3)	7 (2.0)
West	23 (2.9)	66 (2.5)	10 (2.1)
STATES			
Alabama	17 (1.6)	77 (1.7)	6 (1.0)
Arizona	19 (1.5)	75 (1.8)	6 (1.0)
Arkansas	17 (1.5)	79 (1.7)	4 (0.8)
California	20 (1.7)	72 (1.9)	8 (1.4)
Colorado	20 (1.8)	74 (2.1)	6 (0.8)
Connecticut	27 (2.0)	65 (2.4)	8 (1.2)
Delaware	19 (2.0)	76 (2.2)	5 (0.9)
Dist. Columbia	12 (1.2)	81 (1.5)	7 (1.0)
Florida	15 (1.6)	80 (1.7)	5 (0.8)
Georgia	19 (1.6)	77 (1.5)	4 (0.8)
Hawaii	23 (1.7)	71 (1.9)	6 (1.4)
Idaho	18 (1.7)	74 (1.8)	7 (1.0)
Indiana	21 (2.0)	75 (2.0)	3 (0.7)
Iowa	25 (2.0)	72 (2.0)	3 (0.6)
Kentucky	21 (2.0)	77 (2.1)	3 (0.8)
Louisiana	14 (1.7)	81 (1.8)	5 (1.0)
Maine	25 (1.9)	72 (1.8)	2 (0.8)
Maryland	24 (1.6)	70 (1.7)	5 (0.9)
Massachusetts	25 (2.3)	70 (2.4)	5 (1.0)
Michigan	21 (1.7)	74 (1.8)	5 (0.9)
Minnesota	28 (1.7)	67 (1.7)	5 (1.1)
Mississippi	13 (1.6)	81 (1.6)	6 (0.9)
Missouri	21 (2.0)	75 (2.0)	4 (0.8)
Nebraska	26 (2.2)	70 (2.1)	5 (1.2)
New Hampshire	25 (1.8)	68 (2.0)	8 (1.1)
New Jersey	23 (2.1)	70 (2.1)	7 (1.0)
New Mexico	17 (1.5)	78 (1.9)	5 (1.0)
New York	24 (1.8)	74 (2.0)	2 (0.6)
North Carolina	17 (1.7)	78 (1.8)	5 (0.8)
North Dakota	24 (1.8)	72 (2.0)	4 (0.8)
Ohio	22 (1.7)	73 (1.8)	4 (0.8)
Oklahoma	23 (1.8)	73 (2.0)	4 (0.8)
Pennsylvania	24 (1.8)	73 (1.8)	3 (0.7)
Rhode Island	17 (2.0)	77 (2.0)	6 (1.0)
South Carolina	15 (1.6)	81 (1.9)	5 (0.8)
Tennessee	19 (1.9)	77 (2.0)	4 (0.9)
Texas	19 (1.7)	78 (1.7)	3 (0.8)
Utah	22 (1.5)	73 (1.7)	6 (0.9)
Virginia	23 (2.0)	72 (2.2)	5 (0.9)
West Virginia	15 (1.2)	79 (1.4)	6 (0.9)
Wisconsin	23 (1.8)	73 (2.0)	4 (0.8)
Wyoming	20 (1.6)	75 (1.9)	5 (0.9)
TERRITORY			
Guam	12 (1.6)	81 (1.9)	7 (1.3)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 5.3 | Percentage of Correct Responses to Regular Constructed-Response Question, "Jill's Class Trip" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	58 (1.4)	39 (1.3)	3 (0.5)
Northeast	58 (2.7)	39 (2.1)	3 (1.1)
Southeast	52 (2.9)	44 (2.3)	4 (1.1)
Central	62 (2.7)	35 (2.5)	4 (1.0)
West	60 (2.9)	38 (3.0)	2 (0.5)
STATES			
Alabama	55 (2.3)	42 (2.3)	3 (0.8)
Arizona	65 (2.1)	32 (1.9)	3 (0.8)
Arkansas	60 (2.5)	38 (2.3)	2 (0.7)
California	61 (1.9)	36 (1.9)	3 (0.6)
Colorado	63 (1.9)	35 (2.0)	1 (0.5)
Connecticut	67 (2.0)	33 (2.1)	1 (0.4)
Delaware	59 (2.5)	39 (2.5)	3 (0.9)
Dist. Columbia	46 (2.3)	49 (2.6)	5 (0.9)
Florida	57 (2.4)	38 (2.4)	5 (1.1)
Georgia	58 (2.1)	39 (2.2)	3 (0.8)
Hawaii	55 (2.2)	39 (2.3)	6 (1.0)
Idaho	68 (1.9)	29 (1.9)	2 (0.7)
Indiana	61 (2.0)	38 (1.9)	1 (0.4)
Iowa	71 (2.3)	28 (2.1)	1 (0.5)
Kentucky	61 (1.9)	36 (2.0)	2 (0.7)
Louisiana	54 (2.3)	43 (2.1)	3 (0.7)
Maine	69 (2.4)	30 (2.3)	1 (0.4)
Maryland	59 (2.2)	36 (2.4)	5 (0.9)
Massachusetts	63 (1.8)	34 (1.8)	2 (0.6)
Michigan	63 (1.8)	36 (1.8)	1 (0.4)
Minnesota	68 (1.8)	31 (1.8)	1 (0.3)
Mississippi	51 (2.1)	44 (1.9)	4 (0.8)
Missouri	62 (2.1)	36 (2.0)	2 (0.6)
Nebraska	65 (2.6)	34 (2.6)	1 (0.3)
New Hampshire	67 (2.1)	31 (2.1)	2 (0.6)
New Jersey	68 (1.8)	31 (1.8)	1 (0.5)
New Mexico	56 (1.8)	41 (1.9)	4 (0.7)
New York	63 (2.4)	34 (2.3)	3 (0.7)
North Carolina	59 (2.0)	39 (2.0)	2 (0.5)
North Dakota	70 (1.8)	29 (1.9)	2 (0.8)
Ohio	65 (2.1)	33 (2.1)	2 (0.6)
Oklahoma	64 (2.0)	32 (2.2)	4 (0.9)
Pennsylvania	64 (2.1)	34 (2.0)	2 (0.7)
Rhode Island	61 (1.8)	36 (1.8)	3 (0.9)
South Carolina	61 (2.0)	38 (2.0)	1 (0.5)
Tennessee	57 (2.2)	40 (2.4)	3 (0.8)
Texas	58 (2.3)	38 (2.1)	4 (0.8)
Utah	68 (1.9)	31 (1.9)	1 (0.4)
Virginia	64 (2.2)	35 (2.1)	1 (0.4)
West Virginia	59 (2.1)	38 (2.1)	4 (0.7)
Wisconsin	66 (2.5)	31 (2.4)	2 (0.5)
Wyoming	65 (2.2)	32 (2.1)	3 (0.7)
TERRITORIES			
Guam	44 (2.8)	50 (2.3)	6 (1.6)
Virgin Islands	37 (2.8)	51 (2.8)	12 (1.6)

TABLE 5.4 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Draw a Rectangle on Grid"

Grade 4

	Correct	Incorrect	No Response
Nation	42 (1.4)	50 (1.4)	7 (0.8)
Northeast	50 (2.9)	43 (2.1)	8 (2.1)
Southeast	38 (3.5)	54 (3.0)	8 (1.4)
Central	45 (3.0)	50 (3.5)	6 (1.8)
West	39 (2.1)	53 (1.9)	8 (1.7)
White	49 (1.9)	46 (1.8)	5 (0.8)
Black	22 (2.6)	64 (2.4)	15 (2.5)
Hispanic	30 (2.4)	58 (2.7)	12 (2.1)
Male	43 (2.0)	49 (2.1)	9 (1.2)
Female	42 (2.0)	52 (1.9)	6 (1.0)
Advantaged Urban	54 (3.8)	42 (3.3)	4 (1.6)
Disadvantaged Urban	24 (3.6)	56 (3.8)	20 (4.5)
Extreme Rural	39 (4.8)	54 (4.7)	6 (2.0)
Other	44 (1.8)	50 (1.7)	6 (0.9)
Public	43 (1.5)	50 (1.5)	8 (0.9)
Catholic and Other Private	41 (3.6)	53 (3.3)	6 (1.7)

Grade 8

	Correct	Incorrect	No Response
Nation	66 (1.5)	31 (1.3)	3 (0.5)
Northeast	64 (4.3)	34 (4.2)	2 (0.4)
Southeast	64 (2.6)	33 (1.8)	3 (1.4)
Central	69 (2.3)	29 (2.2)	2 (0.9)
West	69 (2.7)	28 (2.4)	3 (0.8)
White	72 (1.9)	26 (1.8)	1 (0.4)
Black	46 (3.5)	48 (3.2)	6 (1.9)
Hispanic	56 (3.4)	38 (2.9)	6 (1.8)
Male	67 (2.1)	30 (1.9)	3 (0.8)
Female	66 (1.4)	32 (1.5)	2 (0.5)
Advantaged Urban	74 (4.0)	24 (4.0)	2 (1.2)
Disadvantaged Urban	51 (4.4)	44 (4.9)	5 (1.4)
Extreme Rural	61 (3.6)	37 (3.5)	2 (0.8)
Other	68 (1.7)	30 (1.5)	3 (0.6)
Public	66 (1.6)	32 (1.5)	3 (0.6)
Catholic and Other Private	72 (2.5)	26 (2.6)	2 (0.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.5 | **Percentage of Correct Responses to Regular Constructed-Response Question, "Draw a Rectangle on the Grid"**

PUBLIC SCHOOLS	Grade 4 - 1992		
	Correct	Incorrect	No Response
NATION	43 (1.5)	50 (1.5)	8 (0.9)
Northeast	50 (3.1)	42 (2.2)	8 (2.5)
Southeast	37 (3.9)	54 (3.3)	9 (1.6)
Central	46 (3.2)	48 (3.8)	5 (1.8)
West	40 (2.3)	53 (2.2)	8 (1.6)
STATES			
Alabama	34 (2.4)	59 (2.6)	8 (1.2)
Arizona	37 (1.7)	57 (1.8)	7 (1.1)
Arkansas	35 (2.1)	59 (2.2)	6 (1.0)
California	39 (2.3)	53 (2.3)	8 (1.3)
Colorado	47 (2.2)	47 (2.2)	6 (1.1)
Connecticut	54 (2.2)	41 (2.2)	6 (0.9)
Delaware	39 (2.4)	53 (2.6)	8 (1.4)
Dist. Columbia	28 (1.8)	58 (2.0)	13 (1.3)
Florida	41 (2.6)	52 (2.8)	7 (1.1)
Georgia	40 (2.4)	54 (2.0)	6 (0.9)
Hawaii	47 (2.4)	48 (2.3)	5 (1.0)
Idaho	45 (2.2)	49 (2.3)	6 (1.1)
Indiana	48 (2.5)	48 (2.3)	5 (0.8)
Iowa	50 (2.3)	46 (2.0)	4 (0.8)
Kentucky	39 (2.5)	56 (2.3)	5 (0.8)
Louisiana	33 (2.1)	58 (2.2)	9 (1.4)
Maine	52 (2.4)	46 (2.3)	2 (0.7)
Maryland	46 (1.8)	48 (1.9)	6 (1.2)
Massachusetts	44 (2.4)	48 (2.5)	8 (1.2)
Michigan	41 (2.2)	56 (2.2)	3 (0.7)
Minnesota	52 (2.7)	43 (2.6)	4 (0.9)
Mississippi	29 (1.9)	60 (2.1)	11 (1.7)
Missouri	41 (2.3)	56 (2.3)	3 (0.6)
Nebraska	45 (2.6)	51 (2.6)	4 (0.8)
New Hampshire	49 (2.3)	45 (2.3)	6 (1.0)
New Jersey	47 (2.5)	46 (2.3)	7 (1.2)
New Mexico	36 (2.6)	58 (2.7)	7 (1.4)
New York	40 (2.2)	53 (2.5)	8 (1.2)
North Carolina	38 (2.1)	55 (2.3)	7 (0.9)
North Dakota	43 (2.8)	54 (2.5)	4 (0.9)
Ohio	49 (2.7)	46 (2.6)	5 (1.0)
Oklahoma	37 (2.4)	58 (2.4)	5 (1.1)
Pennsylvania	49 (2.3)	47 (2.2)	4 (0.6)
Rhode Island	38 (2.3)	53 (2.1)	9 (1.2)
South Carolina	39 (2.2)	54 (2.1)	7 (1.0)
Tennessee	37 (2.1)	53 (2.2)	10 (1.1)
Texas	47 (2.9)	48 (2.6)	5 (1.0)
Utah	49 (2.3)	46 (2.3)	5 (1.0)
Virginia	40 (2.3)	55 (2.2)	5 (1.1)
West Virginia	38 (2.2)	57 (2.2)	5 (1.0)
Wisconsin	45 (2.0)	51 (2.1)	5 (0.8)
Wyoming	46 (2.2)	50 (2.4)	4 (0.9)
TERRITORY			
Guam	24 (2.1)	62 (2.5)	14 (1.6)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.5

Percentage of Correct Responses to Regular Constructed-Response Question, "Draw a Rectangle on the Grid" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	66 (1.6)	32 (1.5)	3 (0.6)
Northeast	63 (5.2)	35 (5.1)	2 (0.5)
Southeast	62 (2.8)	34 (1.9)	3 (1.6)
Central	68 (2.5)	30 (2.4)	2 (1.0)
West	69 (2.8)	28 (2.5)	3 (0.9)
STATES			
Alabama	54 (2.6)	42 (2.4)	4 (1.0)
Arizona	64 (2.4)	33 (2.3)	3 (0.7)
Arkansas	61 (1.8)	37 (1.9)	2 (0.5)
California	64 (2.3)	32 (2.3)	4 (0.9)
Colorado	69 (2.2)	28 (2.0)	3 (0.6)
Connecticut	71 (1.8)	28 (1.8)	1 (0.7)
Delaware	60 (2.7)	36 (2.7)	3 (0.9)
Dist. Columbia	49 (2.4)	43 (2.1)	8 (1.5)
Florida	58 (2.1)	37 (2.2)	4 (0.9)
Georgia	65 (1.8)	33 (1.7)	2 (0.7)
Hawaii	62 (2.3)	33 (2.1)	5 (1.0)
Idaho	67 (1.8)	31 (1.8)	2 (0.5)
Indiana	62 (2.5)	36 (2.4)	2 (0.5)
Iowa	78 (2.0)	21 (1.9)	1 (0.4)
Kentucky	61 (1.8)	36 (1.7)	3 (0.6)
Louisiana	57 (2.2)	38 (2.0)	5 (0.8)
Maine	72 (1.9)	27 (1.9)	1 (0.5)
Maryland	61 (2.5)	35 (2.4)	4 (0.8)
Massachusetts	63 (2.5)	34 (2.5)	3 (1.0)
Michigan	66 (2.3)	31 (2.2)	3 (0.9)
Minnesota	76 (1.7)	22 (1.6)	1 (0.5)
Mississippi	51 (2.4)	44 (2.2)	5 (1.2)
Missouri	69 (1.8)	29 (1.8)	2 (0.6)
Nebraska	68 (2.5)	31 (2.4)	2 (0.5)
New Hampshire	72 (1.9)	27 (2.0)	1 (0.5)
New Jersey	69 (2.5)	28 (2.4)	3 (0.9)
New Mexico	58 (2.1)	37 (2.2)	5 (0.7)
New York	65 (2.6)	32 (2.4)	3 (1.1)
North Carolina	63 (2.6)	34 (2.4)	3 (0.7)
North Dakota	68 (2.2)	31 (2.3)	1 (0.2)
Ohio	66 (2.1)	32 (2.0)	2 (0.6)
Oklahoma	65 (2.0)	35 (2.1)	1 (0.4)
Pennsylvania	67 (2.3)	30 (2.2)	3 (0.8)
Rhode Island	63 (1.9)	35 (2.0)	2 (0.5)
South Carolina	65 (1.9)	33 (1.8)	2 (0.7)
Tennessee	60 (2.4)	38 (2.5)	3 (0.7)
Texas	71 (1.9)	27 (1.7)	3 (0.7)
Utah	71 (2.0)	28 (1.9)	1 (0.4)
Virginia	65 (2.0)	33 (2.0)	2 (0.5)
West Virginia	59 (2.1)	39 (2.2)	2 (0.6)
Wisconsin	67 (3.3)	31 (2.7)	2 (0.9)
Wyoming	69 (1.7)	29 (1.7)	2 (0.5)
TERRITORIES			
Guam	49 (3.0)	39 (3.4)	12 (2.0)
Virgin Islands	38 (2.7)	46 (2.9)	16 (1.7)

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TABLE 5.6 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Sampling the Yellow and Blue Marbles"

Grade 4

	Correct	Incorrect	No Response
Nation	24 (1.5)	64 (1.6)	12 (1.1)
Northeast	31 (3.3)	60 (2.8)	9 (2.1)
Southeast	17 (2.3)	68 (3.4)	14 (2.6)
Central	30 (2.7)	59 (2.8)	12 (1.1)
West	19 (3.4)	68 (3.4)	13 (2.0)
White	30 (1.7)	60 (1.7)	10 (1.0)
Black	4 (1.8)	78 (3.8)	18 (3.6)
Hispanic	9 (2.7)	72 (3.7)	19 (3.3)
Male	25 (1.8)	62 (1.9)	12 (1.2)
Female	22 (2.0)	66 (2.0)	12 (1.4)
Advantaged Urban	44 (4.7)	49 (3.7)	7 (2.6)
Disadvantaged Urban	11 (3.0)	65 (4.6)	24 (4.8)
Extreme Rural	21 (3.7)	65 (4.7)	14 (3.0)
Other	22 (1.6)	66 (1.7)	11 (1.1)
Public	24 (1.6)	64 (1.7)	12 (1.1)
Catholic and Other Private	23 (2.9)	64 (3.4)	13 (2.1)

Grade 8

	Correct	Incorrect	No Response
Nation	59 (1.3)	30 (1.1)	11 (0.7)
Northeast	59 (3.2)	30 (2.9)	11 (1.4)
Southeast	53 (2.7)	34 (2.9)	13 (1.0)
Central	66 (2.6)	26 (2.1)	8 (1.7)
West	58 (2.1)	29 (1.3)	13 (1.6)
White	68 (1.3)	23 (1.2)	9 (1.0)
Black	33 (4.0)	49 (4.1)	18 (2.0)
Hispanic	38 (2.7)	42 (3.5)	20 (2.8)
Male	59 (1.6)	27 (1.5)	14 (1.1)
Female	59 (1.9)	32 (1.9)	9 (1.1)
Advantaged Urban	75 (3.1)	22 (2.9)	3 (1.4)
Disadvantaged Urban	34 (3.7)	44 (4.1)	22 (3.0)
Extreme Rural	65 (4.2)	30 (3.6)	4 (1.5)
Other	59 (1.4)	29 (1.3)	12 (0.9)
Public	58 (1.4)	30 (1.3)	12 (0.8)
Catholic and Other Private	67 (2.8)	26 (2.6)	8 (1.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 5.7 Percentage of Correct Responses to Regular Constructed-Response Question, "Sampling the Yellow and Blue Marbles"

PUBLIC SCHOOLS	Grade 4 - 1992		
	Correct	**Incorrect**	**No Response**
NATION	24 (1.6)	65 (1.6)	11 (1.1)
Northeast	32 (3.7)	60 (3.4)	8 (2.2)
Southeast	17 (2.6)	69 (3.4)	14 (2.6)
Central	31 (2.9)	58 (3.2)	11 (1.9)
West	18 (3.5)	71 (3.2)	11 (1.7)
STATES			
Alabama	17 (1.6)	72 (2.1)	11 (1.4)
Arizona	19 (1.7)	68 (1.9)	13 (1.3)
Arkansas	17 (1.8)	69 (1.8)	14 (1.4)
California	18 (2.0)	70 (2.4)	12 (1.7)
Colorado	31 (2.5)	59 (2.4)	10 (1.3)
Connecticut	34 (2.3)	58 (2.4)	9 (1.5)
Delaware	18 (2.0)	69 (2.5)	13 (1.3)
Dist. Columbia	9 (1.4)	70 (2.2)	21 (1.9)
Florida	18 (1.8)	69 (1.9)	12 (1.2)
Georgia	23 (1.9)	64 (2.3)	13 (1.7)
Hawaii	19 (1.5)	68 (2.2)	13 (1.6)
Idaho	24 (2.0)	65 (2.1)	11 (1.3)
Indiana	27 (2.3)	64 (2.1)	9 (1.3)
Iowa	32 (1.8)	60 (2.0)	8 (1.0)
Kentucky	18 (1.6)	70 (1.8)	11 (1.5)
Louisiana	12 (1.7)	77 (2.0)	11 (1.5)
Maine	37 (2.2)	54 (2.2)	9 (1.4)
Maryland	30 (1.7)	61 (1.9)	9 (1.2)
Massachusetts	32 (2.6)	58 (2.6)	10 (1.5)
Michigan	21 (2.1)	69 (2.1)	10 (1.4)
Minnesota	31 (2.2)	60 (2.2)	9 (1.5)
Mississippi	10 (1.4)	73 (1.8)	17 (1.5)
Missouri	27 (2.1)	62 (2.5)	10 (1.6)
Nebraska	28 (2.3)	61 (2.7)	11 (2.1)
New Hampshire	35 (2.3)	55 (2.5)	10 (1.4)
New Jersey	30 (2.4)	59 (2.5)	11 (1.3)
New Mexico	19 (1.8)	68 (2.1)	13 (1.8)
New York	25 (2.4)	65 (2.6)	10 (1.5)
North Carolina	18 (1.3)	72 (1.3)	10 (1.3)
North Dakota	32 (1.8)	60 (2.0)	8 (1.3)
Ohio	28 (2.2)	63 (2.3)	9 (1.2)
Oklahoma	23 (1.9)	68 (2.0)	8 (1.2)
Pennsylvania	27 (2.0)	62 (1.9)	10 (1.3)
Rhode Island	21 (2.1)	63 (2.4)	15 (1.6)
South Carolina	16 (1.5)	70 (2.1)	13 (1.7)
Tennessee	18 (1.9)	66 (2.0)	15 (1.5)
Texas	18 (1.7)	68 (2.0)	14 (1.5)
Utah	21 (1.9)	67 (2.1)	11 (1.3)
Virginia	25 (1.9)	66 (1.8)	9 (1.1)
West Virginia	16 (1.6)	71 (2.1)	14 (1.4)
Wisconsin	34 (2.6)	59 (2.6)	8 (1.1)
Wyoming	29 (1.9)	59 (2.2)	12 (1.4)
TERRITORY			
Guam	6 (1.0)	84 (1.8)	10 (1.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 5.7 | Percentage of Correct Responses to Regular Constructed-Response Question, "Sampling the Yellow and Blue Marbles" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	58 (1.4)	30 (1.3)	11 (0.7)
Northeast	58 (4.0)	29 (3.6)	12 (1.6)
Southeast	52 (2.9)	35 (3.3)	13 (1.2)
Central	66 (2.8)	26 (2.2)	8 (1.7)
West	57 (2.3)	31 (1.5)	12 (1.5)
STATES			
Alabama	45 (2.4)	39 (2.4)	16 (1.7)
Arizona	59 (2.3)	30 (1.9)	10 (1.5)
Arkansas	50 (2.4)	37 (2.0)	13 (1.5)
California	55 (2.3)	30 (2.2)	15 (1.9)
Colorado	68 (2.0)	25 (1.7)	8 (1.1)
Connecticut	64 (2.6)	29 (2.2)	7 (1.3)
Delaware	60 (2.8)	28 (2.3)	12 (1.7)
Dist. Columbia	33 (3.3)	43 (3.0)	24 (2.3)
Florida	56 (2.4)	32 (1.8)	12 (1.3)
Georgia	51 (2.3)	38 (2.2)	11 (1.3)
Hawaii	45 (2.0)	39 (2.0)	16 (1.8)
Idaho	65 (1.8)	28 (1.7)	7 (1.1)
Indiana	68 (1.7)	24 (1.6)	7 (1.1)
Iowa	75 (1.8)	22 (1.5)	3 (0.7)
Kentucky	56 (2.4)	33 (2.2)	10 (1.3)
Louisiana	48 (2.7)	37 (2.3)	15 (1.6)
Maine	72 (2.2)	25 (2.1)	3 (0.4)
Maryland	62 (2.2)	29 (2.1)	10 (1.5)
Massachusetts	61 (1.8)	30 (1.9)	9 (1.3)
Michigan	64 (2.2)	27 (1.7)	9 (1.3)
Minnesota	72 (2.1)	22 (1.8)	5 (1.1)
Mississippi	43 (2.7)	39 (2.3)	18 (1.7)
Missouri	64 (2.3)	28 (2.0)	8 (1.2)
Nebraska	69 (2.1)	25 (2.0)	6 (1.4)
New Hampshire	71 (2.0)	22 (1.8)	6 (1.1)
New Jersey	65 (2.4)	26 (1.8)	9 (1.0)
New Mexico	53 (1.9)	34 (1.7)	13 (1.5)
New York	60 (2.6)	31 (2.1)	9 (1.5)
North Carolina	58 (2.2)	33 (2.3)	9 (1.3)
North Dakota	71 (2.1)	26 (2.0)	3 (0.8)
Ohio	62 (1.9)	28 (1.8)	10 (1.1)
Oklahoma	62 (2.1)	31 (2.0)	7 (1.0)
Pennsylvania	63 (2.8)	29 (2.4)	8 (1.3)
Rhode Island	63 (2.2)	27 (2.0)	11 (1.3)
South Carolina	54 (2.1)	36 (1.9)	10 (1.2)
Tennessee	54 (1.8)	35 (1.7)	11 (1.3)
Texas	56 (2.1)	33 (1.9)	11 (1.3)
Utah	67 (2.0)	26 (1.8)	7 (1.0)
Virginia	60 (2.3)	31 (2.1)	9 (1.3)
West Virginia	56 (1.9)	35 (2.0)	9 (1.3)
Wisconsin	70 (2.4)	25 (2.2)	5 (1.1)
Wyoming	69 (1.8)	26 (1.7)	5 (0.9)
TERRITORIES			
Guam	29 (2.2)	41 (2.5)	30 (2.2)
Virgin Islands	22 (2.3)	34 (2.5)	44 (2.3)

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TABLE 5.8 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Find Points on a Grid"

Grade 4

	Correct	Incorrect	No Response
Nation	38 (1.6)	51 (1.3)	10 (1.0)
Northeast	36 (2.4)	55 (3.2)	10 (1.9)
Southeast	33 (2.9)	55 (2.0)	12 (2.4)
Central	45 (4.4)	46 (3.6)	9 (2.1)
West	39 (2.5)	50 (1.6)	11 (1.3)
White	47 (2.2)	45 (1.8)	8 (1.1)
Black	13 (2.1)	70 (3.1)	17 (2.6)
Hispanic	15 (2.2)	68 (3.0)	17 (2.3)
Male	40 (2.0)	48 (1.8)	12 (1.3)
Female	38 (2.4)	54 (2.1)	8 (1.1)
Advantaged Urban	55 (2.9)	42 (3.3)	3 (1.2)
Disadvantaged Urban	18 (3.5)	62 (4.2)	20 (4.2)
Extreme Rural	35 (4.6)	52 (3.3)	14 (3.4)
Other	39 (1.9)	51 (1.8)	10 (1.1)
Public	38 (1.8)	51 (1.5)	11 (1.1)
Catholic and Other Private	42 (2.1)	51 (2.1)	7 (1.5)

Grade 8

	Correct	Incorrect	No Response
Nation	75 (1.3)	21 (1.3)	4 (0.6)
Northeast	72 (3.8)	24 (2.9)	4 (1.4)
Southeast	75 (2.9)	23 (2.7)	3 (1.0)
Central	81 (2.1)	16 (2.1)	3 (0.8)
West	73 (2.1)	22 (2.5)	6 (1.5)
White	81 (1.5)	16 (1.4)	3 (0.7)
Black	59 (3.8)	36 (3.6)	6 (1.9)
Hispanic	58 (2.9)	37 (2.9)	5 (1.5)
Male	76 (1.9)	20 (1.7)	5 (0.9)
Female	75 (1.5)	22 (1.5)	3 (0.6)
Advantaged Urban	80 (4.9)	15 (4.0)	4 (1.5)
Disadvantaged Urban	60 (3.2)	36 (2.7)	5 (1.7)
Extreme Rural	80 (5.1)	20 (5.1)	0 (0.0)
Other	76 (1.2)	20 (1.2)	4 (0.7)
Public	75 (1.4)	21 (1.4)	4 (0.6)
Catholic and Other Private	78 (2.3)	20 (2.2)	3 (0.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.9 | Percentage of Correct Responses to Regular Constructed-Response Question, "Find Points on a Grid"

PUBLIC SCHOOLS	Grade 4 - 1992		
	Correct	Incorrect	No Response
NATION	38 (1.8)	51 (1.5)	11 (1.0)
Northeast	36 (2.5)	55 (3.7)	9 (2.1)
Southeast	32 (3.2)	56 (2.0)	12 (2.7)
Central	45 (5.0)	46 (4.3)	9 (2.0)
West	38 (2.9)	50 (2.1)	12 (1.4)
STATES			
Alabama	26 (2.3)	63 (2.5)	12 (1.5)
Arizona	37 (1.8)	52 (2.0)	10 (1.4)
Arkansas	33 (1.9)	57 (2.0)	10 (1.2)
California	34 (2.1)	50 (2.3)	16 (1.4)
Colorado	45 (2.1)	48 (2.1)	7 (1.0)
Connecticut	42 (1.9)	51 (1.8)	7 (1.2)
Delaware	34 (2.5)	57 (2.1)	9 (1.7)
Dist. Columbia	16 (1.2)	68 (1.8)	16 (1.5)
Florida	38 (2.6)	53 (2.5)	10 (1.3)
Georgia	36 (2.1)	55 (1.9)	9 (1.1)
Hawaii	29 (2.1)	60 (2.2)	11 (1.5)
Idaho	37 (2.6)	54 (2.3)	9 (1.2)
Indiana	37 (2.1)	56 (2.3)	7 (1.3)
Iowa	46 (2.0)	47 (1.9)	7 (1.1)
Kentucky	30 (2.3)	61 (2.3)	9 (1.3)
Louisiana	24 (2.0)	64 (2.2)	12 (1.3)
Maine	46 (2.5)	49 (2.4)	5 (1.0)
Maryland	38 (1.7)	55 (1.9)	8 (1.2)
Massachusetts	39 (2.3)	52 (2.5)	9 (1.3)
Michigan	33 (2.3)	60 (2.5)	8 (1.1)
Minnesota	45 (2.1)	46 (2.2)	9 (1.1)
Mississippi	21 (1.5)	65 (2.0)	14 (1.7)
Missouri	48 (2.2)	46 (2.2)	6 (1.1)
Nebraska	42 (2.7)	51 (2.6)	7 (1.2)
New Hampshire	47 (2.4)	45 (2.4)	8 (1.4)
New Jersey	50 (2.6)	45 (2.5)	5 (1.5)
New Mexico	31 (2.9)	60 (2.8)	10 (1.4)
New York	39 (2.3)	54 (2.5)	8 (1.3)
North Carolina	34 (2.3)	59 (2.4)	8 (1.1)
North Dakota	43 (2.2)	51 (2.2)	6 (1.0)
Ohio	36 (2.0)	56 (1.9)	8 (1.4)
Oklahoma	39 (2.4)	56 (2.4)	5 (1.1)
Pennsylvania	40 (2.1)	53 (1.9)	7 (1.2)
Rhode Island	32 (2.5)	58 (2.3)	10 (1.4)
South Carolina	31 (1.8)	60 (1.9)	9 (1.0)
Tennessee	28 (2.1)	62 (2.1)	10 (1.4)
Texas	34 (2.0)	58 (1.9)	8 (1.2)
Utah	39 (2.1)	53 (2.0)	8 (1.1)
Virginia	36 (2.4)	58 (2.2)	6 (0.9)
West Virginia	33 (2.0)	57 (2.1)	9 (1.1)
Wisconsin	52 (2.2)	43 (2.1)	5 (0.9)
Wyoming	40 (2.2)	54 (2.3)	6 (1.0)
TERRITORY			
Guam	18 (2.1)	71 (2.5)	12 (1.4)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.9 | Percentage of Correct Responses to Regular Constructed-Response Question, "Find Points on a Grid" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	75 (1.4)	21 (1.4)	4 (0.6)
Northeast	71 (4.7)	25 (3.5)	4 (1.7)
Southeast	75 (3.1)	23 (2.9)	2 (0.9)
Central	81 (2.3)	17 (2.3)	3 (0.9)
West	73 (2.2)	22 (2.6)	6 (1.5)
STATES			
Alabama	66 (2.1)	30 (1.9)	4 (0.9)
Arizona	74 (2.2)	22 (1.9)	4 (0.8)
Arkansas	69 (1.8)	27 (2.0)	4 (1.0)
California	71 (2.4)	24 (2.0)	6 (1.1)
Colorado	79 (1.5)	18 (1.4)	3 (0.7)
Connecticut	80 (1.7)	17 (1.5)	3 (1.0)
Delaware	77 (2.2)	20 (2.2)	3 (0.8)
Dist. Columbia	50 (2.4)	43 (2.4)	7 (1.1)
Florida	75 (2.0)	19 (2.1)	6 (1.0)
Georgia	71 (2.1)	26 (1.9)	3 (0.6)
Hawaii	65 (2.3)	29 (2.3)	5 (0.9)
Idaho	85 (1.4)	13 (1.4)	2 (0.6)
Indiana	81 (1.7)	16 (1.5)	2 (0.8)
Iowa	88 (1.4)	12 (1.4)	0 (0.3)
Kentucky	74 (1.6)	25 (1.5)	2 (0.6)
Louisiana	65 (2.2)	31 (2.1)	5 (0.9)
Maine	85 (1.6)	14 (1.5)	1 (0.4)
Maryland	72 (2.0)	24 (1.8)	4 (0.8)
Massachusetts	82 (1.6)	16 (1.5)	2 (0.6)
Michigan	77 (2.1)	19 (1.8)	4 (0.8)
Minnesota	84 (1.2)	14 (1.3)	2 (0.6)
Mississippi	60 (2.3)	36 (2.2)	4 (0.6)
Missouri	83 (1.7)	14 (1.6)	3 (0.6)
Nebraska	88 (1.7)	10 (1.4)	2 (0.6)
New Hampshire	85 (1.5)	14 (1.5)	1 (0.3)
New Jersey	79 (2.0)	20 (2.0)	1 (0.5)
New Mexico	75 (2.2)	21 (2.0)	4 (0.7)
New York	76 (2.8)	20 (2.4)	4 (1.0)
North Carolina	72 (1.8)	24 (1.6)	4 (0.7)
North Dakota	86 (1.9)	13 (1.9)	1 (0.4)
Ohio	80 (2.0)	17 (1.9)	3 (0.7)
Oklahoma	82 (1.9)	16 (1.9)	2 (0.7)
Pennsylvania	80 (2.1)	19 (1.9)	1 (0.5)
Rhode Island	80 (1.9)	16 (1.8)	4 (0.8)
South Carolina	69 (1.9)	28 (1.9)	3 (0.8)
Tennessee	72 (2.0)	25 (1.9)	3 (0.7)
Texas	77 (1.9)	19 (1.6)	3 (0.8)
Utah	86 (1.4)	13 (1.4)	2 (0.5)
Virginia	76 (1.9)	22 (1.8)	2 (0.7)
West Virginia	76 (2.1)	22 (1.9)	2 (0.5)
Wisconsin	84 (1.6)	14 (1.5)	2 (0.6)
Wyoming	82 (1.8)	16 (1.7)	2 (0.5)
TERRITORIES			
Guam	55 (2.8)	35 (2.7)	10 (1.6)
Virgin Islands	40 (2.5)	43 (3.0)	17 (2.1)

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TABLE 5.10 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Shapes Cut from Cylinders" and "Misleading Pictographs of Trash Cans"

Grade 8

	Shapes Cut from Cylinders			Misleading Pictographs of Trash Cans		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
Nation	48 (1.3)	45 (1.2)	7 (0.8)	8 (0.8)	86 (1.1)	6 (0.9)
Northeast	46 (2.7)	48 (2.1)	6 (1.1)	14 (2.4)	78 (3.0)	8 (1.9)
Southeast	46 (2.9)	46 (2.6)	8 (2.2)	6 (0.9)	90 (1.0)	5 (0.9)
Central	53 (2.5)	42 (2.5)	5 (0.9)	10 (1.8)	87 (2.4)	3 (1.3)
West	48 (1.9)	44 (2.3)	8 (1.6)	6 (1.5)	87 (2.2)	7 (2.3)
White	52 (1.6)	42 (1.7)	5 (0.9)	10 (1.0)	84 (1.4)	6 (1.0)
Black	41 (4.0)	48 (3.1)	11 (2.7)	4 (1.5)	90 (2.5)	6 (2.2)
Hispanic	38 (3.3)	51 (3.3)	10 (2.2)	4 (1.5)	92 (1.9)	4 (1.0)
Male	44 (2.1)	48 (2.1)	8 (1.1)	10 (1.3)	84 (1.3)	6 (0.9)
Female	54 (1.5)	42 (1.4)	5 (0.9)	7 (0.9)	87 (1.7)	6 (1.3)
Advantaged Urban	54 (2.9)	42 (3.4)	3 (1.5)	12 (2.3)	84 (2.8)	4 (1.3)
Disadvantaged Urban	35 (4.3)	51 (4.3)	14 (2.8)	2 (0.9)	89 (2.1)	10 (2.2)
Extreme Rural	50 (5.2)	45 (5.0)	5 (3.0)	5 (2.4)	91 (2.3)	4 (1.7)
Other	49 (1.6)	44 (1.4)	7 (0.9)	9 (1.0)	85 (1.4)	6 (1.1)
Public	48 (1.5)	45 (1.4)	7 (0.9)	8 (0.9)	86 (1.2)	6 (0.9)
Catholic and Other Private	50 (2.5)	46 (2.5)	4 (1.6)	12 (1.7)	83 (2.2)	5 (1.4)

The standard errors of the estimated percentage and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 5.11

Percentages of Correct Responses to Regular Constructed-Response Questions, "Shapes Cut from Cylinders" and "Misleading Pictograph of Trash Cans"

PUBLIC SCHOOLS	Grade 8 - 1992					
	Shapes Cut from Cylinders			Misleading Pictographs of Trash Cans		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
NATION	48 (1.5)	45 (1.4)	6 (0.9)	8 (0.9)	92 (0.9)	0 (0.0)
Northeast	45 (3.5)	48 (2.9)	6 (1.4)	14 (2.7)	86 (2.7)	0 (0.0)
Southeast	46 (3.2)	46 (2.8)	8 (2.3)	5 (0.9)	95 (0.9)	0 (0.0)
Central	53 (3.1)	42 (3.0)	4 (1.2)	9 (2.2)	91 (2.2)	0 (0.0)
West	48 (1.9)	46 (2.5)	7 (1.6)	5 (1.6)	95 (1.6)	0 (0.0)
STATES						
Alabama	36 (1.8)	57 (1.7)	7 (1.1)	7 (1.4)	93 (1.4)	0 (0.0)
Arizona	51 (2.3)	43 (2.1)	6 (1.0)	7 (1.2)	93 (1.2)	0 (0.0)
Arkansas	42 (2.0)	53 (1.9)	5 (1.1)	6 (1.1)	94 (1.1)	0 (0.0)
California	44 (2.3)	48 (2.4)	8 (1.4)	7 (1.2)	93 (1.2)	0 (0.0)
Colorado	50 (2.3)	43 (2.2)	6 (1.0)	9 (1.1)	91 (1.1)	0 (0.0)
Connecticut	52 (2.0)	44 (2.2)	4 (0.7)	10 (1.4)	90 (1.4)	0 (0.0)
Delaware	50 (2.8)	40 (2.7)	10 (1.4)	10 (1.6)	90 (1.6)	0 (0.0)
Dist. Columbia	41 (2.4)	48 (2.6)	11 (1.7)	5 (1.6)	95 (1.6)	0 (0.0)
Florida	45 (2.5)	46 (2.5)	9 (1.2)	5 (1.1)	95 (1.1)	0 (0.0)
Georgia	45 (2.4)	48 (2.4)	7 (0.9)	6 (1.3)	94 (1.3)	0 (0.0)
Hawaii	48 (1.9)	42 (2.0)	10 (1.2)	6 (1.2)	94 (1.2)	0 (0.0)
Idaho	50 (2.1)	45 (2.0)	5 (1.0)	11 (1.4)	89 (1.4)	0 (0.0)
Indiana	55 (2.2)	41 (2.1)	4 (0.9)	8 (1.2)	92 (1.2)	0 (0.0)
Iowa	54 (2.3)	44 (2.2)	3 (0.6)	13 (1.5)	87 (1.5)	0 (0.0)
Kentucky	45 (2.2)	49 (2.4)	6 (1.1)	8 (1.4)	92 (1.4)	0 (0.0)
Louisiana	40 (2.5)	51 (2.3)	9 (1.3)	4 (0.9)	96 (0.9)	0 (0.0)
Maine	56 (2.0)	39 (2.2)	5 (1.1)	10 (1.5)	90 (1.5)	0 (0.0)
Maryland	48 (2.8)	46 (2.6)	6 (0.9)	11 (1.5)	89 (1.5)	0 (0.0)
Massachusetts	56 (2.2)	38 (2.3)	6 (1.0)	16 (2.3)	84 (2.3)	0 (0.0)
Michigan	52 (2.0)	43 (1.8)	5 (1.1)	11 (1.5)	89 (1.5)	0 (0.0)
Minnesota	52 (2.6)	44 (2.3)	4 (0.9)	11 (1.4)	89 (1.4)	0 (0.0)
Mississippi	34 (2.2)	57 (1.8)	9 (1.5)	4 (0.9)	96 (0.9)	0 (0.0)
Missouri	56 (2.2)	38 (2.0)	6 (1.0)	12 (1.6)	88 (1.6)	0 (0.0)
Nebraska	50 (2.6)	44 (2.6)	6 (1.2)	15 (1.5)	85 (1.5)	0 (0.0)
New Hampshire	60 (2.3)	36 (2.1)	4 (0.9)	16 (2.0)	84 (2.0)	0 (0.0)
New Jersey	51 (2.6)	45 (2.9)	4 (1.0)	11 (1.4)	89 (1.4)	0 (0.0)
New Mexico	47 (2.1)	47 (2.2)	6 (0.9)	4 (1.0)	96 (1.0)	0 (0.0)
New York	54 (2.6)	38 (2.5)	8 (1.2)	9 (1.2)	91 (1.2)	0 (0.0)
North Carolina	45 (2.1)	49 (2.1)	6 (1.0)	8 (1.2)	92 (1.2)	0 (0.0)
North Dakota	50 (2.6)	47 (2.6)	3 (0.8)	16 (1.8)	84 (1.8)	0 (0.0)
Ohio	54 (2.4)	42 (2.2)	4 (0.9)	11 (1.4)	89 (1.4)	0 (0.0)
Oklahoma	49 (2.6)	45 (2.5)	6 (1.2)	10 (1.3)	90 (1.3)	0 (0.0)
Pennsylvania	56 (1.9)	40 (1.8)	4 (0.9)	13 (1.4)	87 (1.4)	0 (0.0)
Rhode Island	52 (3.1)	42 (3.0)	6 (1.1)	11 (1.7)	89 (1.7)	0 (0.0)
South Carolina	46 (2.0)	48 (2.1)	6 (0.9)	6 (1.0)	94 (1.0)	0 (0.0)
Tennessee	48 (1.8)	46 (1.7)	6 (0.8)	8 (1.2)	92 (1.2)	0 (0.0)
Texas	45 (2.6)	48 (2.5)	7 (1.2)	8 (1.2)	92 (1.2)	0 (0.0)
Utah	53 (2.3)	41 (2.2)	6 (1.1)	13 (1.5)	87 (1.5)	0 (0.0)
Virginia	53 (2.3)	43 (2.3)	4 (0.8)	9 (1.4)	91 (1.4)	0 (0.0)
West Virginia	46 (2.3)	47 (2.3)	7 (1.0)	8 (1.4)	92 (1.4)	0 (0.0)
Wisconsin	51 (2.3)	45 (2.6)	5 (1.0)	11 (1.5)	89 (1.5)	0 (0.0)
Wyoming	51 (2.0)	44 (1.8)	5 (0.9)	8 (1.5)	92 (1.5)	0 (0.0)
TERRITORIES						
Guam	41 (2.6)	45 (2.9)	14 (1.8)	1 (0.7)	99 (0.7)	0 (0.0)
Virgin Islands	40 (3.1)	45 (3.0)	15 (2.1)	1 (0.9)	99 (0.9)	0 (0.0)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.12 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Two Numbers Make Number Sentence True"

Grade 8

	Correct	Incorrect	No Response
Nation	49 (1.6)	41 (1.4)	10 (0.8)
Northeast	48 (5.4)	44 (4.9)	8 (1.1)
Southeast	43 (3.1)	46 (2.6)	11 (2.0)
Central	56 (2.9)	36 (2.3)	9 (1.7)
West	50 (2.3)	38 (1.8)	12 (1.3)
White	57 (1.9)	36 (1.8)	8 (0.8)
Black	30 (3.6)	56 (3.1)	13 (2.8)
Hispanic	25 (3.2)	53 (3.3)	22 (2.7)
Male	49 (2.0)	41 (1.8)	11 (1.2)
Female	50 (2.0)	41 (1.8)	9 (1.0)
Advantaged Urban	63 (5.4)	33 (4.7)	4 (1.6)
Disadvantaged Urban	26 (4.3)	55 (4.4)	19 (2.4)
Extreme Rural	55 (4.5)	37 (4.0)	8 (2.0)
Other	49 (1.6)	41 (1.4)	10 (0.9)
Public	48 (1.7)	42 (1.6)	10 (0.9)
Catholic and Other Private	56 (3.2)	36 (2.6)	8 (1.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.13 | Percentage of Correct Responses to Regular Constructed-Response Question, "Two Numbers Make Number Sentence True"

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	48 (1.7)	42 (1.6)	9 (0.9)
Northeast	46 (6.1)	47 (5.6)	7 (1.5)
Southeast	42 (3.1)	49 (2.8)	10 (2.3)
Central	55 (3.2)	36 (2.8)	9 (1.8)
West	50 (2.3)	39 (1.9)	11 (1.3)
STATES			
Alabama	40 (2.3)	48 (2.1)	12 (1.8)
Arizona	47 (1.8)	43 (1.6)	10 (1.2)
Arkansas	42 (2.2)	48 (2.3)	9 (1.4)
California	45 (2.3)	43 (2.3)	12 (1.4)
Colorado	54 (2.4)	40 (2.3)	6 (0.9)
Connecticut	55 (2.2)	36 (2.0)	9 (1.4)
Delaware	46 (2.3)	43 (2.5)	11 (1.7)
Dist. Columbia	32 (2.8)	46 (2.5)	22 (1.9)
Florida	48 (2.2)	41 (2.0)	11 (1.3)
Georgia	49 (2.3)	43 (2.3)	9 (1.3)
Hawaii	38 (2.0)	47 (2.2)	15 (1.7)
Idaho	55 (2.1)	37 (1.8)	7 (0.9)
Indiana	46 (1.9)	47 (2.3)	7 (1.4)
Iowa	64 (2.0)	30 (1.8)	6 (0.9)
Kentucky	44 (2.2)	47 (2.0)	9 (1.0)
Louisiana	41 (2.2)	48 (2.1)	11 (1.5)
Maine	56 (2.3)	37 (2.0)	8 (1.0)
Maryland	45 (2.0)	44 (2.0)	11 (1.5)
Massachusetts	54 (2.1)	38 (1.9)	8 (1.1)
Michigan	52 (2.4)	38 (2.3)	10 (1.3)
Minnesota	63 (2.4)	32 (2.2)	5 (1.1)
Mississippi	35 (2.4)	55 (2.3)	10 (1.4)
Missouri	57 (2.1)	38 (2.2)	5 (1.0)
Nebraska	57 (2.6)	38 (2.4)	5 (0.7)
New Hampshire	55 (2.3)	39 (2.3)	5 (0.9)
New Jersey	55 (2.5)	39 (2.4)	6 (1.0)
New Mexico	37 (2.2)	52 (1.9)	10 (1.1)
New York	52 (2.8)	39 (3.0)	10 (1.9)
North Carolina	43 (2.1)	49 (2.1)	8 (1.2)
North Dakota	61 (2.4)	36 (2.6)	3 (0.8)
Ohio	50 (2.5)	43 (2.3)	7 (1.3)
Oklahoma	54 (2.4)	37 (2.1)	10 (1.4)
Pennsylvania	56 (2.5)	38 (2.1)	6 (1.2)
Rhode Island	50 (2.5)	42 (2.7)	8 (1.3)
South Carolina	46 (2.0)	46 (2.3)	8 (1.3)
Tennessee	40 (2.0)	49 (2.0)	11 (1.3)
Texas	49 (2.4)	41 (2.4)	9 (1.2)
Utah	55 (1.9)	38 (1.9)	7 (1.1)
Virginia	51 (2.2)	41 (1.9)	8 (1.3)
West Virginia	40 (2.1)	49 (2.0)	11 (1.2)
Wisconsin	55 (2.5)	37 (1.9)	8 (1.3)
Wyoming	53 (1.9)	41 (1.9)	6 (1.0)
TERRITORIES			
Guam	28 (2.1)	50 (2.6)	21 (2.2)
Virgin Islands	22 (2.2)	38 (2.5)	40 (2.9)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.14 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Changing Area of Triangle"

Grade 12

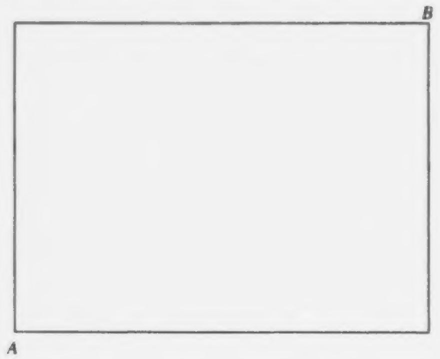
	Correct	Incorrect	No Response
Nation	29 (1.6)	37 (1.7)	34 (1.5)
Northeast	38 (2.0)	32 (2.3)	31 (2.4)
Southeast	20 (2.2)	43 (2.9)	36 (3.6)
Central	29 (3.8)	35 (3.1)	36 (3.0)
West	29 (3.6)	38 (3.9)	33 (3.1)
White	33 (1.9)	35 (1.8)	32 (1.8)
Black	12 (2.6)	49 (3.0)	39 (2.9)
Hispanic	16 (3.9)	34 (4.3)	49 (5.5)
Male	30 (2.0)	38 (2.3)	32 (1.8)
Female	28 (2.1)	36 (2.3)	36 (2.4)
Advantaged Urban	51 (5.8)	30 (4.1)	19 (3.8)
Disadvantaged Urban	15 (2.4)	42 (3.7)	43 (4.1)
Extreme Rural	19 (3.8)	37 (3.8)	44 (5.5)
Other	28 (2.2)	38 (2.2)	34 (1.9)
Public	27 (1.8)	37 (1.9)	36 (1.7)
Catholic and Other Private	42 (3.1)	37 (3.2)	21 (2.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may total 100 percent due to rounding error.

EXAMPLE RULER AND PROTRACTOR/RULER CONSTRUCTED-RESPONSE QUESTIONS WITH NATIONAL RESULTS

EXAMPLE 9: Measurement

(size reduced from original)



Overall Percent Correct*

Grade 4

Part One: 52 (1.5)
Part Two: 60 (1.2)

Grade 8

Part One: 71 (1.5)
Part Two: 79 (1.1)

Use your centimeter ruler to make the following measurements to the nearest centimeter.

What is the length in centimeters of one of the longer sides of the rectangle?

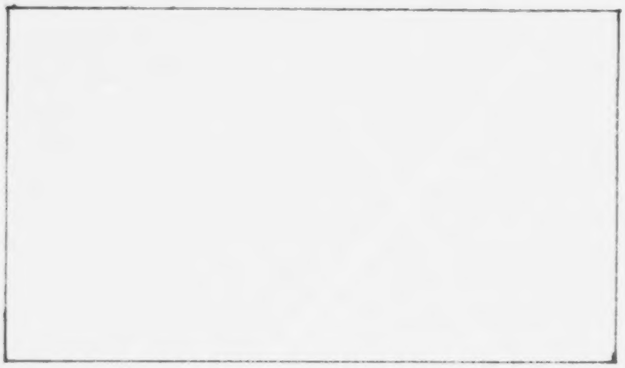
Answer: 8 centimeters

What is the length in centimeters of the diagonal from *A* to *B* ?

Answer: 10 centimeters

EXAMPLE 10: Geometry

In the space below, draw a rectangle 2 inches wide and $3\frac{1}{2}$ inches long.



Overall Percent Correct*

Grade 4 -- 18 (0.9)
Grade 8 -- 58 (1.3)

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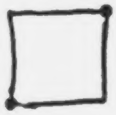
*The standard errors of the estimated percentages appear in parentheses.

EXAMPLE 11: Geometry

Overall Percent Correct*
Grade 4 -- 40 (1.3)
Grade 8 -- 67 (1.5)

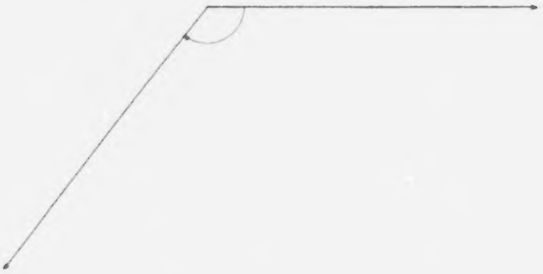
In the space below, use your ruler to draw a square with two of its corners at the points shown.



(One possible answer)

EXAMPLE 12: Measurement

Overall Percent Correct*
Grade 8 -- 35 (1.9)



Use your protractor to find the degree measure of the angle shown above.

Answer: 128°

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*The standard errors of the estimated percentages appear in parentheses.

TABLE 5.15 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Ruler to Measure Centimeters"

Grade 4

	Measure Longer Side		
	Correct	**Incorrect**	**No Response**
Nation	52 (1.5)	43 (1.4)	6 (0.7)
Northeast	52 (3.2)	42 (2.6)	7 (2.3)
Southeast	47 (2.2)	49 (2.1)	4 (1.2)
Central	56 (4.5)	40 (4.2)	3 (1.0)
West	52 (1.5)	39 (1.5)	9 (1.4)
White	57 (2.0)	38 (1.9)	5 (0.9)
Black	29 (3.5)	63 (3.6)	8 (1.7)
Hispanic	45 (3.4)	47 (3.0)	8 (1.9)
Male	51 (1.9)	42 (1.7)	7 (1.0)
Female	52 (2.5)	43 (2.5)	5 (0.9)
Advantaged Urban	66 (4.8)	31 (4.7)	2 (1.2)
Disadvantaged Urban	25 (4.0)	60 (4.1)	14 (2.4)
Extreme Rural	53 (7.5)	44 (7.4)	3 (1.4)
Other	52 (1.8)	42 (1.7)	6 (1.0)
Public	50 (1.6)	44 (1.5)	6 (0.8)
Catholic and Other Private	62 (2.8)	33 (2.4)	5 (1.3)

Grade 8

	Measure Longer Side		
	Correct	**Incorrect**	**No Response**
Nation	71 (1.5)	26 (1.3)	3 (0.5)
Northeast	73 (3.3)	24 (3.0)	3 (0.9)
Southeast	63 (3.2)	35 (2.5)	2 (1.0)
Central	77 (2.7)	20 (2.1)	3 (1.3)
West	70 (3.5)	26 (3.1)	4 (0.8)
White	78 (1.6)	19 (1.4)	2 (0.5)
Black	42 (4.1)	51 (3.6)	6 (1.7)
Hispanic	57 (3.9)	38 (4.1)	5 (1.3)
Male	71 (2.0)	26 (1.9)	3 (0.6)
Female	70 (1.8)	27 (1.6)	3 (0.7)
Advantaged Urban	82 (2.8)	15 (2.2)	2 (1.4)
Disadvantaged Urban	50 (6.1)	39 (4.6)	11 (2.6)
Extreme Rural	67 (6.5)	33 (6.5)	0 (0.3)
Other	72 (2.0)	25 (1.8)	3 (0.6)
Public	69 (1.7)	27 (1.5)	3 (0.5)
Catholic and Other Private	80 (2.2)	19 (2.2)	2 (0.9)

(Table 5.15 continued on next page)

Table 5.15 (continued)

Grade 4

	Measure Diagonal		
	Correct	**Incorrect**	**No Response**
Nation	60 (1.2)	33 (1.1)	7 (0.7)
Northeast	66 (3.2)	27 (2.2)	7 (2.1)
Southeast	52 (2.6)	44 (2.0)	4 (1.3)
Central	68 (3.0)	28 (3.1)	4 (1.3)
West	57 (1.9)	33 (1.4)	10 (1.5)
White	67 (1.5)	28 (1.4)	5 (0.8)
Black	35 (3.0)	54 (3.3)	11 (2.1)
Hispanic	51 (4.2)	40 (3.3)	9 (2.1)
Male	56 (2.1)	36 (1.9)	8 (1.0)
Female	65 (1.9)	30 (1.8)	5 (0.9)
Advantaged Urban	78 (3.3)	20 (3.0)	2 (1.2)
Disadvantaged Urban	27 (3.5)	56 (3.5)	17 (3.0)
Extreme Rural	61 (7.2)	38 (6.8)	2 (1.3)
Other	62 (1.6)	31 (1.4)	7 (1.0)
Public	59 (1.3)	34 (1.2)	7 (0.8)
Catholic and Other Private	68 (2.6)	28 (2.5)	4 (1.1)

Grade 8

	Measure Diagonal		
	Correct	**Incorrect**	**No Response**
Nation	79 (1.1)	18 (1.1)	3 (0.5)
Northeast	83 (2.3)	14 (2.2)	3 (0.7)
Southeast	76 (2.2)	21 (1.4)	3 (1.2)
Central	82 (2.1)	16 (2.0)	3 (1.3)
West	75 (2.3)	21 (2.6)	4 (0.8)
White	84 (1.2)	14 (1.3)	2 (0.5)
Black	60 (4.0)	33 (3.4)	7 (1.8)
Hispanic	66 (3.2)	28 (3.3)	5 (1.2)
Male	80 (1.8)	18 (1.7)	3 (0.6)
Female	78 (1.4)	19 (1.4)	4 (0.7)
Advantaged Urban	87 (3.3)	13 (3.3)	0 (0.0)
Disadvantaged Urban	60 (5.3)	28 (4.0)	11 (2.6)
Extreme Rural	79 (2.4)	19 (2.3)	2 (1.2)
Other	80 (1.4)	18 (1.4)	3 (0.6)
Public	77 (1.2)	19 (1.2)	4 (0.6)
Catholic and Other Private	90 (1.7)	9 (1.6)	1 (0.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 5.16

Percentages of Correct Responses to Regular Constructed-Response Questions "Using Ruler to Measure Centimeters"

PUBLIC SCHOOLS	Grade 4 - 1992		
	Measure Longer Side		
	Correct	Incorrect	No Response
NATION	50 (1.6)	45 (1.5)	5 (0.7)
Northeast	51 (3.5)	42 (2.8)	6 (2.2)
Southeast	45 (2.4)	51 (2.4)	3 (1.2)
Central	54 (4.9)	43 (4.7)	4 (1.0)
West	51 (1.5)	42 (1.5)	8 (1.5)
STATES			
Alabama	40 (2.1)	56 (2.2)	4 (0.9)
Arizona	51 (2.2)	44 (2.1)	5 (0.8)
Arkansas	43 (2.1)	52 (2.1)	5 (1.0)
California	45 (2.1)	47 (2.2)	8 (1.2)
Colorado	56 (2.4)	39 (2.2)	4 (0.8)
Connecticut	60 (1.9)	37 (1.8)	3 (0.7)
Delaware	48 (1.9)	49 (2.0)	4 (0.9)
Dist. Columbia	25 (2.1)	64 (2.2)	12 (1.5)
Florida	47 (2.6)	49 (2.6)	4 (0.9)
Georgia	48 (2.7)	47 (2.5)	5 (1.1)
Hawaii	48 (2.1)	47 (1.9)	5 (1.0)
Idaho	57 (2.2)	39 (2.2)	4 (0.7)
Indiana	50 (2.6)	48 (2.4)	2 (0.6)
Iowa	59 (1.8)	39 (1.7)	2 (0.7)
Kentucky	42 (2.1)	54 (2.1)	4 (0.7)
Louisiana	42 (2.9)	54 (2.7)	4 (0.8)
Maine	64 (2.7)	33 (2.6)	3 (0.9)
Maryland	49 (2.1)	47 (2.1)	4 (1.0)
Massachusetts	54 (2.6)	41 (2.7)	5 (1.2)
Michigan	55 (2.3)	40 (2.1)	5 (0.9)
Minnesota	62 (2.1)	35 (1.9)	3 (0.6)
Mississippi	36 (1.8)	59 (1.8)	5 (0.7)
Missouri	56 (2.4)	42 (2.4)	3 (0.7)
Nebraska	60 (2.7)	37 (2.7)	2 (0.7)
New Hampshire	61 (2.2)	35 (2.1)	4 (0.8)
New Jersey	56 (2.8)	39 (2.7)	5 (1.0)
New Mexico	49 (3.3)	48 (3.2)	3 (0.7)
New York	50 (2.9)	45 (2.9)	5 (1.3)
North Carolina	44 (1.6)	50 (1.8)	6 (1.1)
North Dakota	61 (2.3)	37 (2.2)	2 (0.7)
Ohio	51 (2.3)	46 (2.1)	4 (0.8)
Oklahoma	49 (2.2)	49 (2.2)	2 (0.7)
Pennsylvania	53 (2.6)	44 (2.6)	2 (0.6)
Rhode Island	46 (2.5)	47 (2.4)	7 (1.3)
South Carolina	45 (2.1)	51 (2.1)	4 (0.8)
Tennessee	40 (2.1)	56 (2.0)	4 (0.9)
Texas	49 (2.4)	49 (2.4)	2 (0.6)
Utah	59 (2.1)	38 (2.1)	3 (0.7)
Virginia	50 (2.3)	47 (2.2)	3 (0.8)
West Virginia	50 (2.0)	47 (2.0)	3 (0.7)
Wisconsin	59 (2.6)	39 (2.6)	2 (0.5)
Wyoming	60 (1.8)	35 (1.8)	4 (0.8)
TERRITORY			
Guam	27 (2.1)	64 (2.2)	9 (1.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 5.16 | Percentages of Correct Responses to Regular Constructed-Response Questions "Using Ruler to Measure Centimeters" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992		
	Measure Longer Side		
	Correct	Incorrect	No Response
NATION	69 (1.7)	28 (1.4)	3 (0.5)
Northeast	72 (3.5)	24 (3.0)	3 (0.7)
Southeast	61 (3.6)	37 (2.9)	2 (1.1)
Central	76 (3.1)	22 (2.5)	3 (1.4)
West	69 (3.8)	27 (3.2)	4 (0.9)
STATES			
Alabama	63 (2.2)	35 (2.1)	2 (0.8)
Arizona	76 (2.0)	22 (1.9)	2 (0.6)
Arkansas	68 (1.8)	31 (1.7)	1 (0.4)
California	73 (2.0)	24 (1.8)	3 (0.7)
Colorado	81 (1.5)	17 (1.4)	2 (0.5)
Connecticut	80 (1.7)	19 (1.6)	1 (0.5)
Delaware	72 (2.0)	25 (1.8)	2 (0.6)
Dist. Columbia	45 (2.9)	46 (3.0)	9 (1.4)
Florida	68 (2.5)	30 (2.3)	2 (0.6)
Georgia	65 (2.6)	33 (2.4)	2 (0.6)
Hawaii	71 (2.0)	27 (1.9)	3 (0.5)
Idaho	80 (1.9)	18 (1.7)	2 (0.6)
Indiana	76 (1.9)	23 (1.8)	1 (0.3)
Iowa	85 (1.6)	14 (1.6)	1 (0.4)
Kentucky	71 (1.9)	27 (1.8)	2 (0.5)
Louisiana	60 (2.2)	36 (2.2)	4 (0.7)
Maine	84 (1.1)	15 (1.2)	1 (0.5)
Maryland	70 (2.0)	26 (1.8)	4 (0.9)
Massachusetts	77 (1.7)	20 (1.7)	3 (0.7)
Michigan	74 (1.7)	24 (1.8)	2 (0.5)
Minnesota	83 (1.9)	16 (1.9)	1 (0.5)
Mississippi	51 (2.0)	47 (2.0)	3 (0.7)
Missouri	78 (2.0)	20 (1.9)	2 (0.5)
Nebraska	82 (1.4)	17 (1.3)	1 (0.3)
New Hampshire	84 (1.7)	15 (1.6)	1 (0.4)
New Jersey	72 (2.2)	27 (2.1)	1 (0.6)
New Mexico	69 (1.7)	27 (1.6)	4 (1.0)
New York	73 (2.7)	24 (2.3)	4 (1.5)
North Carolina	67 (2.1)	32 (2.2)	2 (0.5)
North Dakota	84 (1.8)	16 (1.8)	0 (0.2)
Ohio	71 (2.8)	27 (2.7)	2 (0.6)
Oklahoma	74 (1.9)	23 (1.9)	2 (0.7)
Pennsylvania	81 (1.7)	18 (1.7)	1 (0.4)
Rhode Island	76 (2.3)	23 (2.2)	1 (0.6)
South Carolina	70 (1.8)	28 (1.6)	2 (0.5)
Tennessee	69 (2.2)	29 (2.1)	1 (0.5)
Texas	70 (2.3)	29 (2.2)	1 (0.4)
Utah	81 (1.9)	18 (1.9)	1 (0.4)
Virginia	72 (1.8)	26 (1.8)	1 (0.3)
West Virginia	71 (2.2)	27 (2.2)	2 (0.5)
Wisconsin	81 (1.4)	19 (1.3)	1 (0.3)
Wyoming	82 (1.7)	17 (1.7)	1 (0.4)
TERRITORIES			
Guam	55 (2.5)	40 (2.8)	5 (1.3)
Virgin Islands	38 (2.4)	47 (2.9)	15 (2.1)

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TABLE 5.16 | Percentages of Correct Responses to Regular Constructed-Response Questions "Using Ruler to Measure Centimeters" (continued)

PUBLIC SCHOOLS	Grade 4 - 1992		
	Measure Diagnoal		
	Correct	Incorrect	No Response
NATION	59 (1.3)	35 (1.2)	6 (0.7)
Northeast	66 (3.9)	28 (2.6)	6 (1.9)
Southeast	50 (2.8)	46 (2.2)	4 (1.3)
Central	67 (2.9)	28 (3.2)	5 (1.5)
West	56 (2.1)	35 (2.0)	9 (1.4)
STATES			
Alabama	51 (2.1)	45 (2.1)	4 (0.9)
Arizona	56 (2.0)	39 (2.0)	5 (0.8)
Arkansas	51 (1.8)	43 (1.8)	6 (1.0)
California	51 (2.3)	40 (2.2)	9 (1.3)
Colorado	62 (2.1)	34 (1.9)	4 (0.7)
Connecticut	67 (2.2)	30 (2.3)	3 (0.8)
Delaware	59 (2.1)	38 (2.1)	4 (1.0)
Dist. Columbia	28 (2.2)	60 (2.4)	12 (1.6)
Florida	54 (2.8)	40 (3.2)	6 (1.1)
Georgia	52 (2.3)	44 (2.2)	4 (0.9)
Hawaii	56 (2.4)	39 (2.1)	5 (1.1)
Idaho	62 (1.9)	34 (1.8)	4 (0.8)
Indiana	61 (2.1)	37 (2.0)	2 (0.7)
Iowa	68 (1.5)	30 (1.5)	2 (0.6)
Kentucky	51 (1.9)	45 (1.8)	4 (0.7)
Louisiana	47 (2.5)	48 (2.3)	5 (0.8)
Maine	65 (2.3)	32 (2.5)	3 (1.0)
Maryland	57 (1.9)	39 (1.9)	4 (1.0)
Massachusetts	64 (2.4)	32 (2.1)	5 (1.2)
Michigan	62 (2.3)	34 (2.2)	4 (0.8)
Minnesota	66 (2.0)	30 (1.9)	4 (0.7)
Mississippi	43 (2.2)	52 (2.1)	4 (0.7)
Missouri	65 (1.9)	32 (2.0)	2 (0.8)
Nebraska	66 (2.7)	32 (2.7)	2 (0.5)
New Hampshire	68 (2.1)	28 (1.8)	4 (0.7)
New Jersey	62 (1.9)	34 (2.0)	4 (1.1)
New Mexico	52 (2.9)	44 (2.4)	4 (1.0)
New York	54 (2.8)	40 (2.7)	6 (1.2)
North Carolina	51 (2.2)	43 (2.0)	6 (1.0)
North Dakota	70 (2.2)	28 (2.0)	2 (0.7)
Ohio	59 (2.4)	37 (2.2)	4 (0.8)
Oklahoma	60 (2.7)	37 (2.6)	2 (0.7)
Pennsylvania	64 (1.9)	34 (1.8)	3 (0.7)
Rhode Island	55 (2.0)	37 (2.1)	8 (1.5)
South Carolina	53 (2.2)	44 (2.1)	4 (0.8)
Tennessee	49 (2.2)	47 (1.9)	4 (1.0)
Texas	56 (2.4)	41 (2.3)	3 (0.7)
Utah	66 (2.1)	31 (2.1)	4 (0.8)
Virginia	59 (2.5)	38 (2.4)	3 (0.8)
West Virginia	57 (2.1)	40 (2.1)	3 (0.7)
Wisconsin	68 (2.4)	31 (2.4)	2 (0.5)
Wyoming	65 (2.2)	31 (2.1)	4 (0.8)
TERRITORY			
Guam	34 (2.0)	56 (2.4)	9 (1.7)

TABLE 5.16 | Percentages of Correct Responses to Regular Constructed-Response Questions "Using Ruler to Measure Centimeters" (continued)

	Grade 8 - 1992		
	Measure Diagnoal		
PUBLIC SCHOOLS	Correct	Incorrect	No Response
NATION	77 (1.2)	20 (1.2)	3 (0.5)
Northeast	81 (2.7)	16 (2.7)	3 (0.8)
Southeast	74 (2.5)	23 (1.6)	3 (1.3)
Central	80 (2.2)	17 (2.2)	2 (1.4)
West	75 (2.5)	22 (2.7)	3 (0.6)
STATES			
Alabama	75 (2.2)	23 (1.9)	2 (0.8)
Arizona	82 (1.9)	16 (1.6)	3 (0.7)
Arkansas	78 (2.0)	21 (1.8)	1 (0.4)
California	76 (1.9)	20 (1.7)	4 (0.7)
Colorado	84 (1.3)	14 (1.2)	2 (0.5)
Connecticut	87 (1.7)	12 (1.7)	1 (0.5)
Delaware	80 (1.9)	17 (1.7)	3 (0.8)
Dist. Columbia	60 (2.1)	31 (2.2)	9 (1.5)
Florida	76 (2.2)	21 (2.0)	3 (0.8)
Georgia	78 (2.2)	20 (2.1)	2 (0.7)
Hawaii	78 (1.7)	20 (1.6)	3 (0.6)
Idaho	86 (1.6)	12 (1.5)	2 (0.6)
Indiana	84 (1.6)	15 (1.6)	1 (0.4)
Iowa	88 (1.5)	11 (1.3)	1 (0.4)
Kentucky	81 (1.7)	18 (1.6)	2 (0.5)
Louisiana	74 (2.1)	22 (2.2)	4 (0.7)
Maine	87 (1.5)	12 (1.5)	1 (0.5)
Maryland	76 (1.7)	20 (1.8)	4 (0.9)
Massachusetts	85 (1.6)	12 (1.4)	3 (0.9)
Michigan	79 (1.7)	19 (1.6)	2 (0.5)
Minnesota	87 (1.2)	12 (1.2)	1 (0.3)
Mississippi	67 (2.1)	31 (2.0)	2 (0.5)
Missouri	85 (1.7)	13 (1.5)	2 (0.5)
Nebraska	85 (1.6)	14 (1.7)	1 (0.4)
New Hampshire	90 (1.3)	10 (1.3)	0 (0.2)
New Jersey	83 (2.1)	16 (2.0)	1 (0.5)
New Mexico	78 (1.5)	18 (1.4)	4 (1.0)
New York	82 (2.4)	13 (2.0)	5 (1.6)
North Carolina	80 (1.7)	19 (1.7)	2 (0.4)
North Dakota	88 (1.6)	11 (1.6)	0 (0.2)
Ohio	80 (2.3)	18 (2.2)	2 (0.8)
Oklahoma	82 (2.0)	16 (2.0)	2 (0.7)
Pennsylvania	89 (1.4)	11 (1.4)	1 (0.4)
Rhode Island	87 (1.5)	11 (1.4)	1 (0.5)
South Carolina	80 (1.8)	18 (1.7)	2 (0.5)
Tennessee	78 (1.9)	21 (1.8)	1 (0.5)
Texas	77 (1.9)	22 (1.8)	1 (0.4)
Utah	85 (1.4)	14 (1.5)	1 (0.4)
Virginia	83 (1.7)	16 (1.7)	1 (0.4)
West Virginia	81 (2.0)	17 (2.0)	2 (0.6)
Wisconsin	85 (1.5)	14 (1.5)	1 (0.3)
Wyoming	86 (1.4)	13 (1.4)	1 (0.4)
TERRITORIES			
Guam	69 (2.5)	26 (2.8)	5 (1.2)
Virgin Islands	53 (2.2)	33 (2.7)	14 (2.0)

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TABLE 5.17 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Ruler to Draw a Rectangle"

Grade 4

	Correct	Incorrect	No Response
Nation	18 (0.9)	68 (1.2)	13 (0.9)
Northeast	16 (2.3)	76 (3.0)	8 (2.0)
Southeast	17 (1.4)	71 (2.4)	12 (1.6)
Central	20 (2.2)	69 (2.7)	11 (1.7)
West	20 (1.7)	61 (1.6)	19 (1.5)
White	22 (1.3)	67 (1.5)	11 (1.0)
Black	6 (1.4)	73 (3.3)	21 (3.3)
Hispanic	11 (1.8)	70 (3.0)	19 (2.7)
Male	18 (1.4)	64 (1.7)	18 (1.3)
Female	18 (1.6)	74 (1.8)	8 (1.1)
Advantaged Urban	27 (3.0)	64 (3.0)	9 (2.4)
Disadvantaged Urban	8 (1.9)	65 (4.8)	27 (4.7)
Extreme Rural	21 (6.0)	68 (6.0)	11 (3.0)
Other	18 (1.2)	70 (1.6)	12 (1.0)
Public	17 (1.1)	69 (1.4)	14 (1.0)
Catholic and Other Private	29 (2.5)	62 (2.9)	9 (1.8)

Grade 8

	Correct	Incorrect	No Response
Nation	58 (1.3)	38 (1.2)	4 (0.5)
Northeast	63 (3.0)	34 (2.7)	3 (1.0)
Southeast	52 (2.9)	44 (2.6)	4 (1.5)
Central	65 (2.6)	34 (2.6)	1 (0.6)
West	54 (2.0)	40 (1.6)	5 (1.0)
White	68 (1.5)	30 (1.4)	2 (0.3)
Black	28 (3.4)	65 (4.1)	7 (2.3)
Hispanic	37 (2.9)	55 (3.1)	8 (2.0)
Male	59 (2.0)	36 (1.9)	5 (0.9)
Female	58 (1.8)	40 (1.8)	2 (0.6)
Advantaged Urban	71 (2.7)	29 (2.7)	0 (0.0)
Disadvantaged Urban	34 (2.9)	58 (3.2)	8 (2.1)
Extreme Rural	56 (5.9)	42 (5.6)	2 (1.1)
Other	60 (1.6)	37 (1.5)	4 (0.7)
Public	57 (1.4)	39 (1.3)	4 (0.6)
Catholic and Other Private	67 (2.5)	31 (2.6)	2 (0.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole populations is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 5.18 | Percentage of Correct Responses to Regular Constructed-Response Question, "Using Ruler to Draw a Rectangle"

PUBLIC SCHOOLS	Grade 4 - 1992		
	Correct	Incorrect	No Response
NATION	17 (1.1)	70 (1.4)	13 (1.0)
Northeast	14 (1.9)	76 (3.3)	9 (2.4)
Southeast	16 (1.3)	72 (2.4)	12 (1.7)
Central	17 (3.0)	71 (3.5)	12 (2.0)
West	19 (1.8)	62 (1.8)	19 (1.8)
STATES			
Alabama	12 (1.5)	72 (1.8)	15 (1.5)
Arizona	20 (1.8)	66 (2.1)	15 (1.6)
Arkansas	12 (1.5)	74 (2.4)	14 (1.8)
California	18 (1.7)	63 (2.3)	20 (1.8)
Colorado	25 (1.8)	66 (1.8)	10 (1.1)
Connecticut	26 (1.9)	63 (2.2)	11 (1.4)
Delaware	17 (1.5)	71 (1.7)	12 (1.6)
Dist. Columbia	8 (1.1)	70 (1.8)	22 (1.7)
Florida	16 (2.5)	69 (2.4)	16 (1.8)
Georgia	16 (1.7)	71 (1.9)	13 (1.5)
Hawaii	20 (1.6)	68 (1.9)	12 (1.2)
Idaho	24 (1.7)	65 (2.2)	11 (1.5)
Indiana	21 (1.9)	69 (2.0)	10 (1.3)
Iowa	28 (1.8)	64 (1.9)	8 (1.1)
Kentucky	16 (1.5)	73 (1.7)	11 (1.2)
Louisiana	16 (1.6)	72 (1.7)	12 (1.3)
Maine	31 (2.5)	66 (2.5)	4 (0.8)
Maryland	21 (1.4)	67 (1.5)	12 (1.3)
Massachusetts	22 (1.8)	69 (2.1)	9 (1.1)
Michigan	19 (1.6)	68 (1.8)	13 (1.4)
Minnesota	26 (1.8)	66 (2.1)	8 (1.0)
Mississippi	12 (1.4)	74 (1.9)	14 (1.7)
Missouri	21 (1.6)	71 (1.7)	8 (1.1)
Nebraska	28 (2.6)	65 (2.4)	7 (1.0)
New Hampshire	27 (2.1)	64 (1.9)	9 (1.3)
New Jersey	25 (2.2)	67 (2.1)	8 (1.2)
New Mexico	21 (2.4)	69 (2.7)	10 (1.3)
New York	19 (1.7)	68 (2.1)	13 (1.8)
North Carolina	16 (1.4)	70 (1.8)	14 (1.4)
North Dakota	30 (2.5)	63 (2.2)	6 (1.0)
Ohio	22 (1.8)	67 (2.1)	12 (1.7)
Oklahoma	15 (1.7)	78 (1.9)	7 (1.1)
Pennsylvania	22 (1.7)	67 (2.1)	11 (1.3)
Rhode Island	18 (2.1)	70 (2.4)	12 (1.6)
South Carolina	14 (1.5)	76 (1.6)	10 (1.3)
Tennessee	13 (1.6)	71 (2.0)	16 (1.8)
Texas	20 (1.8)	72 (2.2)	7 (1.1)
Utah	28 (2.4)	61 (2.3)	11 (1.3)
Virginia	22 (2.1)	69 (2.1)	9 (1.1)
West Virginia	17 (1.6)	72 (1.9)	11 (1.3)
Wisconsin	26 (2.1)	68 (2.3)	6 (0.9)
Wyoming	24 (2.0)	69 (2.0)	7 (0.9)
TERRITORY			
Guam	8 (1.1)	76 (2.2)	16 (1.8)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.18 | Percentage of Correct Responses to Regular Constructed-Response Question, "Using Ruler to Draw a Rectangle" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	57 (1.4)	39 (1.3)	4 (0.6)
Northeast	62 (3.6)	34 (3.2)	4 (1.2)
Southeast	49 (3.1)	46 (2.8)	4 (1.6)
Central	64 (2.6)	35 (2.7)	1 (0.6)
West	54 (2.3)	41 (1.9)	5 (1.1)
STATES			
Alabama	50 (2.3)	48 (2.2)	3 (0.8)
Arizona	62 (1.7)	34 (1.9)	4 (1.0)
Arkansas	51 (2.3)	46 (2.3)	3 (0.8)
California	61 (2.4)	35 (2.0)	4 (0.9)
Colorado	66 (2.2)	31 (2.2)	3 (0.6)
Connecticut	69 (2.0)	28 (2.3)	3 (0.8)
Delaware	60 (2.8)	35 (2.7)	5 (1.3)
Dist. Columbia	35 (2.7)	53 (2.5)	12 (1.8)
Florida	56 (2.4)	40 (2.5)	4 (0.9)
Georgia	49 (2.3)	47 (2.4)	3 (0.8)
Hawaii	60 (2.4)	36 (2.6)	3 (0.8)
Idaho	69 (1.9)	29 (1.9)	2 (0.5)
Indiana	66 (2.3)	32 (2.2)	2 (0.5)
Iowa	71 (2.0)	27 (2.0)	2 (0.6)
Kentucky	60 (2.2)	36 (2.0)	4 (1.0)
Louisiana	40 (2.3)	55 (2.3)	5 (0.7)
Maine	73 (1.6)	27 (1.6)	1 (0.4)
Maryland	57 (2.0)	39 (2.0)	4 (1.0)
Massachusetts	66 (1.8)	31 (1.9)	3 (0.7)
Michigan	60 (2.3)	36 (2.3)	4 (0.8)
Minnesota	73 (2.1)	26 (1.9)	1 (0.4)
Mississippi	40 (1.8)	55 (2.1)	5 (1.1)
Missouri	66 (2.1)	32 (2.2)	2 (0.5)
Nebraska	73 (1.7)	25 (1.7)	2 (0.6)
New Hampshire	71 (1.9)	27 (1.7)	2 (0.7)
New Jersey	58 (2.5)	39 (2.6)	3 (0.8)
New Mexico	58 (2.0)	39 (2.0)	3 (0.8)
New York	59 (2.5)	35 (2.4)	6 (1.3)
North Carolina	55 (1.8)	41 (1.8)	4 (0.8)
North Dakota	77 (1.8)	22 (1.8)	0 (0.2)
Ohio	62 (2.4)	35 (2.3)	3 (0.9)
Oklahoma	65 (2.3)	33 (2.3)	3 (0.7)
Pennsylvania	69 (1.9)	29 (1.8)	3 (0.7)
Rhode Island	57 (2.6)	41 (2.7)	3 (0.7)
South Carolina	53 (2.4)	45 (2.3)	2 (0.5)
Tennessee	53 (2.5)	44 (2.5)	3 (0.8)
Texas	57 (2.5)	40 (2.5)	3 (0.8)
Utah	71 (1.9)	28 (1.8)	1 (0.5)
Virginia	61 (2.3)	38 (2.2)	2 (0.5)
West Virginia	56 (1.8)	40 (1.8)	4 (0.8)
Wisconsin	72 (2.2)	26 (2.2)	2 (0.6)
Wyoming	73 (2.3)	25 (2.0)	2 (0.6)
TERRITORIES			
Guam	46 (3.0)	45 (2.9)	9 (1.7)
Virgin Islands	30 (2.8)	59 (3.0)	11 (1.4)

TABLE 5.19 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Ruler to Draw a Square"

Grade 4

	Correct	Incorrect	No Response
Nation	40 (1.3)	52 (1.2)	8 (0.6)
Northeast	44 (2.9)	50 (2.9)	5 (1.5)
Southeast	30 (1.5)	61 (1.9)	9 (1.5)
Central	43 (3.2)	50 (2.9)	8 (0.9)
West	45 (2.0)	48 (2.2)	7 (1.2)
White	47 (1.7)	48 (1.7)	5 (0.6)
Black	15 (2.7)	68 (3.6)	18 (3.0)
Hispanic	37 (3.1)	55 (3.3)	8 (1.6)
Male	41 (2.3)	50 (2.2)	9 (1.1)
Female	40 (1.9)	54 (2.1)	6 (0.8)
Advantaged Urban	51 (5.2)	46 (4.8)	3 (1.4)
Disadvantaged Urban	18 (3.1)	58 (4.2)	24 (4.1)
Extreme Rural	46 (6.7)	50 (6.7)	4 (1.2)
Other	41 (1.5)	53 (1.7)	7 (0.7)
Public	39 (1.4)	53 (1.4)	8 (0.7)
Catholic and Other Private	48 (3.1)	48 (2.9)	4 (1.1)

Grade 8

	Correct	Incorrect	No Response
Nation	67 (1.5)	32 (1.7)	2 (0.5)
Northeast	69 (2.9)	30 (2.9)	0 (0.3)
Southeast	59 (2.2)	38 (3.1)	3 (1.6)
Central	71 (1.9)	27 (1.9)	1 (0.6)
West	68 (4.4)	30 (4.6)	2 (0.6)
White	73 (1.9)	26 (2.0)	1 (0.3)
Black	43 (2.9)	52 (3.6)	5 (2.4)
Hispanic	62 (3.8)	37 (3.8)	2 (0.6)
Male	69 (1.7)	28 (1.9)	3 (0.8)
Female	64 (2.1)	35 (2.3)	1 (0.5)
Advantaged Urban	77 (2.2)	22 (2.2)	0 (0.2)
Disadvantaged Urban	54 (3.0)	38 (4.4)	8 (3.6)
Extreme Rural	70 (5.7)	28 (5.8)	2 (1.1)
Other	66 (2.0)	32 (2.1)	1 (0.4)
Public	66 (1.7)	32 (1.9)	2 (0.5)
Catholic and Other Private	75 (2.2)	24 (2.1)	1 (0.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole populations is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 5.20

Percentage of Correct Responses to Regular Constructed-Response Question, "Using Ruler to Draw a Square"

PUBLIC SCHOOLS	Grade 4 - 1992		
	Correct	**Incorrect**	**No Response**
NATION	39 (1.4)	53 (1.4)	8 (0.7)
Northeast	46 (3.8)	49 (3.8)	6 (1.7)
Southeast	28 (1.5)	63 (2.0)	9 (1.7)
Central	41 (3.4)	51 (3.3)	9 (1.0)
West	45 (2.2)	48 (2.5)	7 (1.2)
STATES			
Alabama	33 (2.5)	60 (2.3)	7 (1.2)
Arizona	43 (1.9)	49 (2.0)	8 (1.1)
Arkansas	35 (2.3)	56 (2.5)	8 (1.2)
California	33 (2.2)	52 (2.5)	15 (1.5)
Colorado	43 (1.9)	51 (2.1)	6 (1.0)
Connecticut	45 (2.4)	49 (2.3)	6 (0.9)
Delaware	36 (2.2)	55 (2.5)	9 (1.4)
Dist. Columbia	22 (2.1)	62 (2.2)	16 (1.4)
Florida	37 (2.5)	55 (2.2)	9 (1.4)
Georgia	35 (2.0)	57 (2.0)	8 (1.2)
Hawaii	38 (2.5)	53 (2.4)	8 (1.3)
Idaho	46 (2.0)	46 (2.1)	8 (1.3)
Indiana	39 (2.4)	54 (2.4)	7 (1.2)
Iowa	49 (2.3)	45 (2.2)	5 (1.0)
Kentucky	35 (2.0)	58 (2.0)	7 (1.0)
Louisiana	33 (2.0)	58 (2.1)	10 (1.3)
Maine	52 (2.5)	43 (2.3)	5 (1.0)
Maryland	39 (2.0)	54 (2.4)	8 (1.0)
Massachusetts	48 (2.3)	47 (2.4)	6 (0.9)
Michigan	41 (2.5)	50 (2.3)	9 (1.3)
Minnesota	50 (2.3)	45 (2.2)	5 (0.9)
Mississippi	27 (2.1)	62 (2.1)	11 (1.5)
Missouri	48 (2.1)	47 (2.1)	5 (0.9)
Nebraska	44 (2.8)	51 (2.6)	5 (1.1)
New Hampshire	50 (2.7)	44 (2.5)	6 (1.1)
New Jersey	44 (2.4)	50 (2.4)	6 (1.2)
New Mexico	41 (2.0)	54 (2.0)	5 (1.1)
New York	41 (2.3)	51 (2.4)	8 (1.1)
North Carolina	33 (2.2)	61 (2.3)	7 (1.1)
North Dakota	52 (2.6)	45 (2.6)	4 (1.1)
Ohio	43 (2.3)	50 (2.2)	7 (0.9)
Oklahoma	45 (1.9)	51 (2.0)	5 (0.9)
Pennsylvania	42 (2.7)	52 (2.8)	5 (1.0)
Rhode Island	40 (2.9)	52 (2.9)	9 (1.8)
South Carolina	32 (1.7)	62 (1.8)	7 (1.2)
Tennessee	30 (1.8)	62 (2.1)	9 (1.5)
Texas	40 (1.9)	56 (2.0)	3 (0.8)
Utah	49 (2.2)	45 (2.0)	6 (1.0)
Virginia	39 (2.2)	56 (2.1)	5 (1.0)
West Virginia	39 (2.1)	55 (2.2)	6 (0.9)
Wisconsin	46 (1.9)	49 (2.0)	5 (1.1)
Wyoming	45 (2.1)	50 (2.1)	5 (1.0)
TERRITORY			
Guam	37 (2.2)	53 (2.0)	11 (1.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 5.20 | Percentage of Correct Responses to Regular Constructed-Response Question, "Using Ruler to Draw a Square" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	66 (1.7)	32 (1.9)	2 (0.5)
Northeast	67 (3.5)	33 (3.4)	0 (0.3)
Southeast	57 (2.3)	39 (3.6)	3 (1.8)
Central	72 (2.1)	27 (2.1)	1 (0.7)
West	67 (4.8)	31 (5.0)	2 (0.6)
STATES			
Alabama	61 (2.2)	37 (2.1)	2 (0.6)
Arizona	74 (1.8)	24 (1.7)	2 (0.5)
Arkansas	65 (2.1)	33 (2.1)	2 (0.6)
California	70 (2.3)	28 (2.2)	2 (0.6)
Colorado	79 (1.6)	19 (1.5)	1 (0.4)
Connecticut	74 (2.3)	25 (2.3)	1 (0.4)
Delaware	68 (2.5)	31 (2.5)	1 (0.6)
Dist. Columbia	48 (2.6)	47 (2.5)	5 (1.0)
Florida	63 (2.3)	36 (2.3)	1 (0.4)
Georgia	63 (2.1)	36 (2.1)	2 (0.4)
Hawaii	71 (2.3)	27 (2.2)	2 (0.6)
Idaho	78 (1.8)	21 (1.9)	1 (0.3)
Indiana	73 (2.2)	26 (2.2)	1 (0.4)
Iowa	78 (1.8)	22 (1.8)	0 (0.3)
Kentucky	70 (2.0)	29 (1.9)	2 (0.6)
Louisiana	56 (2.3)	43 (2.3)	1 (0.3)
Maine	78 (2.2)	21 (2.2)	1 (0.4)
Maryland	70 (2.3)	29 (2.3)	1 (0.4)
Massachusetts	73 (2.1)	26 (2.1)	1 (0.3)
Michigan	69 (2.3)	30 (2.3)	2 (0.5)
Minnesota	77 (2.0)	22 (2.1)	1 (0.4)
Mississippi	53 (2.1)	46 (2.2)	1 (0.4)
Missouri	71 (1.8)	28 (1.7)	1 (0.4)
Nebraska	78 (2.0)	21 (2.0)	1 (0.5)
New Hampshire	81 (1.9)	19 (1.8)	0 (0.3)
New Jersey	71 (2.1)	28 (1.9)	1 (0.5)
New Mexico	73 (2.2)	25 (2.2)	1 (0.5)
New York	64 (2.6)	35 (2.7)	2 (0.8)
North Carolina	64 (2.1)	35 (2.1)	2 (0.4)
North Dakota	78 (2.3)	22 (2.3)	0 (0.0)
Ohio	73 (2.3)	26 (2.2)	1 (0.6)
Oklahoma	73 (1.9)	26 (2.0)	1 (0.5)
Pennsylvania	73 (2.1)	25 (1.9)	2 (0.7)
Rhode Island	69 (2.4)	29 (2.4)	2 (0.4)
South Carolina	62 (2.4)	37 (2.5)	2 (0.6)
Tennessee	63 (2.4)	35 (2.3)	1 (0.5)
Texas	66 (2.2)	32 (2.1)	2 (0.6)
Utah	80 (1.7)	19 (1.6)	1 (0.3)
Virginia	69 (2.1)	30 (2.1)	1 (0.5)
West Virginia	71 (1.8)	28 (1.9)	1 (0.5)
Wisconsin	73 (1.7)	26 (1.7)	1 (0.2)
Wyoming	73 (2.4)	26 (2.4)	1 (0.5)
TERRITORIES			
Guam	63 (3.0)	32 (3.0)	6 (1.4)
Virgin Islands	45 (2.8)	46 (2.7)	10 (2.0)

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TABLE 5.21 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Using Protractor to Measure an Angle"

Grade 8

	Correct	Incorrect	No Response
Nation	35 (1.9)	55 (1.7)	10 (1.0)
Northeast	41 (6.2)	50 (4.8)	9 (2.4)
Southeast	28 (3.2)	61 (3.2)	11 (2.1)
Central	40 (3.7)	54 (3.5)	6 (1.8)
West	32 (2.9)	56 (1.9)	12 (2.0)
White	41 (2.4)	52 (2.0)	7 (0.9)
Black	15 (3.7)	68 (4.9)	17 (3.3)
Hispanic	18 (2.9)	62 (3.9)	20 (3.3)
Male	37 (2.8)	55 (2.5)	8 (1.2)
Female	33 (1.8)	56 (1.7)	11 (1.4)
Advantaged Urban	42 (4.1)	53 (3.4)	5 (1.7)
Disadvantaged Urban	17 (5.1)	66 (5.5)	17 (4.0)
Extreme Rural	34 (5.9)	57 (5.0)	9 (3.5)
Other	36 (2.3)	54 (1.9)	10 (1.4)
Public	35 (2.1)	56 (1.8)	10 (1.1)
Catholic and Other Private	38 (3.1)	53 (2.7)	9 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole populations within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.22 | Percentage of Correct Responses to Regular Constructed-Response Question, "Using Protractor to Measure an Angle"

PUBLIC SCHOOLS	Grade 8 - 1992		
	Correct	Incorrect	No Response
NATION	35 (2.1)	57 (1.9)	9 (1.0)
Northeast	42 (6.9)	50 (5.7)	8 (2.3)
Southeast	28 (3.5)	62 (3.7)	11 (2.3)
Central	39 (4.0)	56 (4.0)	5 (1.9)
West	32 (3.1)	57 (2.5)	11 (1.3)
STATES			
Alabama	24 (2.4)	66 (2.1)	10 (1.5)
Arizona	28 (2.5)	61 (2.4)	11 (1.6)
Arkansas	24 (2.2)	69 (2.4)	7 (1.1)
California	29 (2.5)	57 (2.4)	14 (1.6)
Colorado	37 (2.1)	56 (2.1)	7 (1.1)
Connecticut	41 (2.3)	53 (2.4)	6 (1.5)
Delaware	34 (2.6)	57 (2.6)	9 (1.7)
Dist. Columbia	20 (2.7)	57 (3.0)	23 (2.7)
Florida	29 (2.3)	61 (2.5)	10 (1.5)
Georgia	25 (2.4)	66 (2.3)	9 (1.5)
Hawaii	31 (2.6)	56 (2.6)	13 (1.8)
Idaho	43 (2.5)	50 (2.3)	8 (1.1)
Indiana	42 (2.5)	52 (2.4)	5 (1.1)
Iowa	53 (2.2)	45 (2.1)	2 (0.6)
Kentucky	32 (2.0)	60 (1.8)	8 (1.5)
Louisiana	22 (2.2)	69 (2.4)	9 (1.3)
Maine	42 (2.5)	53 (2.7)	5 (0.9)
Maryland	32 (2.1)	57 (2.5)	11 (1.6)
Massachusetts	37 (2.5)	54 (2.7)	9 (1.2)
Michigan	36 (2.7)	57 (2.5)	7 (1.2)
Minnesota	51 (2.9)	45 (2.7)	3 (0.9)
Mississippi	23 (2.7)	65 (2.5)	12 (1.6)
Missouri	45 (2.8)	51 (2.6)	4 (0.8)
Nebraska	46 (2.7)	51 (2.6)	3 (0.7)
New Hampshire	40 (2.8)	56 (2.6)	4 (0.9)
New Jersey	44 (2.3)	50 (2.3)	5 (1.2)
New Mexico	32 (2.2)	57 (2.2)	11 (1.3)
New York	42 (3.1)	49 (2.9)	9 (1.7)
North Carolina	30 (2.3)	62 (2.6)	8 (1.3)
North Dakota	52 (2.4)	45 (2.5)	3 (0.7)
Ohio	35 (3.7)	57 (3.5)	7 (1.3)
Oklahoma	26 (2.7)	68 (2.5)	6 (1.2)
Pennsylvania	41 (2.3)	53 (2.3)	6 (1.0)
Rhode Island	29 (2.8)	64 (3.0)	7 (1.6)
South Carolina	38 (2.3)	55 (2.5)	7 (1.2)
Tennessee	30 (2.6)	64 (2.8)	6 (1.3)
Texas	34 (2.8)	56 (2.4)	11 (1.4)
Utah	32 (2.2)	62 (2.4)	7 (1.1)
Virginia	36 (2.4)	57 (2.4)	7 (1.3)
West Virginia	28 (2.6)	63 (2.5)	9 (1.5)
Wisconsin	48 (2.5)	48 (2.2)	4 (0.9)
Wyoming	39 (2.3)	54 (2.3)	7 (1.0)
TERRITORIES			
Guam	26 (2.6)	54 (3.1)	19 (2.8)
Virgin Islands	12 (2.3)	53 (3.4)	35 (3.3)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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EXAMPLE CONSTRUCTED-RESPONSE QUESTIONS
CALCULATOR AVAILABLE
WITH NATIONAL AND STATE RESULTS

EXAMPLE 13: Numbers and Operations

Overall Percent Correct*
Grade 4 – 45 (1.4)

Cheeseburger	Hot Dog	Yogurt	Cookie
393 Calories	298 Calories	214 Calories	119 Calories

Which two of the items above would provide a total of about 600 calories?

Answer: Cheeseburger

Yogurt

(One possible answer)

Did you use the calculator on this question?

[✓ Yes] No

EXAMPLE 14: Numbers and Operations

Overall Percent Correct*
Grade 4 – 21 (1.4)

George buys two calculators that cost $3.29 each. If there is no tax, how much change will he receive from a $10 bill?

Answer: $3.42

Did you use the calculator on this question?

[✓ Yes] No

EXAMPLE 15: Numbers and Operations

Overall Percent Correct*
Grade 4 – 58 (1.3)

In the multiplication problem below, write the missing number in the box.

$$\begin{array}{r} 23\boxed{7} \\ \times\ 8 \\ \hline 1{,}896 \end{array}$$

Did you use the calculator on this question?

[✓ Yes] No

---

*The standard errors of the estimated percentages appear in parentheses.

EXAMPLE 16: Algebra and Functions

Overall Percent Correct*
Grade 4 -- 27 (1.5)

Product
$2 \times 2 = 4$
$2 \times 2 \times 2 = 8$
$2 \times 2 \times 2 \times 2 = 16$
$2 \times 2 \times 2 \times 2 \times 2 = 32$

12. If the pattern shown continues, could 375 be one of the products in this pattern?

Yes [✓ No]

Explain why or why not.

Because 375 is not divisible by 2.

Did you use the calculator on this question?

[✓ Yes] No

M000657

EXAMPLE 17: Numbers and Operations

Overall Percent Correct*
Grade 8 -- 52 (1.4)
Grade 12 -- 72 (1.4)

Raymond must buy enough paper to print 28 copies of a report that contains 64 sheets of paper. Paper is only available in packages of 500 sheets. How many whole packages of paper will he need to buy to do the printing?

Answer: 4

Did you use the calculator on this question?

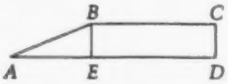
[✓ Yes] No

---

*The Standard errors of the estimated percentages appear in parentheses.

EXAMPLE 18: Measurement

Overall Percent Correct *
Grade 8 – 10 (0.9)
Grade 12 – 23 (1.6)



The area of rectangle *BCDE* shown above is 60 square inches. If the length of *AE* is 10 inches and the length of *ED* is 15 inches, what is the area of trapezoid *ABCD*, in square inches?

Answer: 80

Did you use the calculator on this question?

Yes [✓ No]

EXAMPLE 19: Numbers and Operations

Overall Percent Correct *
Grade 12 -- 5 (0.7)

Video Store A	Video Store B
$2.65 per tape for one night	$3.00 per tape for 2 nights
$1.50 charge for each additional night	1 credit if tape returned after one night
Every 10th tape **free** for one night	Every 10 credits = one **free** rental

The Peterson family rents 30 videotapes yearly, of which 23 are rented for one night only and 7 are rented over a period of two nights. Given the rental fee structures shown above, fill in the chart below with the total yearly cost for the Petersons at each store. (Note: The 30 tapes include the free tapes earned.)

Store	Total Cost
A	$82.05
B	$84.00

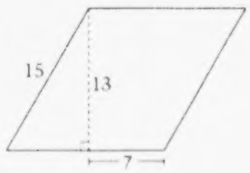
Did you use the calculator on this question?

[✓ Yes] No

*The standard errors of the estimated percentages appear in parentheses.

EXAMPLE 20: Measurement

Overall Percent Correct *
Grade 12 -- 8 (1.0)



To the nearest whole number, what is the area of the parallelogram above?

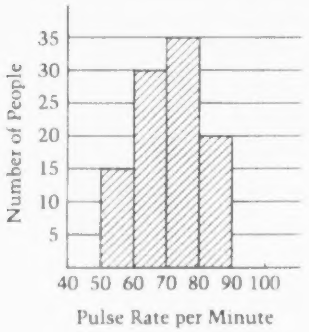
Answer: 188

Did you use the calculator on this question?

[✓ Yes] No

EXAMPLE 21: Data Analysis, Statistics, and Probability

Overall Percent Correct *
Grade 12 -- 9 (1.0)


PULSE RATE FOR 100 PEOPLE

The pulse rate for a group of 100 people is shown in the graph above. What is the average pulse rate per minute for these 100 people? (Note: Use the midpoint of each interval to represent the pulse rate for the entire interval. For example, 55 would be used for the pulse rate of the 15 people in the 50-60 group.)

Answer: 71

Did you use the calculator on this question?

[✓ Yes] No

---

*The standard errors of the estimated percentages appear in parentheses.

EXAMPLE 22: Algebra and Functions

Overall Percent Correct*
Grade 12 – 39 (1.6)

If $f(x) = 4x^2 - 7x + 5.7$, what is the value of $f(3.5)$?

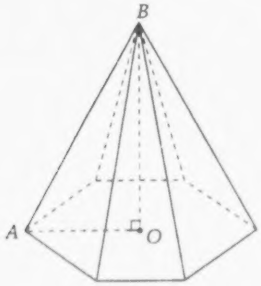
Answer: 30.2

Did you use the calculator on this question?

[✓ Yes] No

EXAMPLE 23: Algebra and Functions

Overall Percent Correct*
Grade 12 – 7 (0.5)



The base of the pyramid shown above is a regular hexagon with side of length 12. If point O is the center of the base and the length of OB is 15, what is the degree measure of angle OAB to the nearest whole number?

Answer: 51°

Did you use the calculator on this question?

[✓ Yes] No

---

*The standard errors of the estimated percentages appear in parentheses.

TABLE 5.23 National Results for Demographic Subgroups for the Regular Constructed-Response Task, "Estimate Calories" and "Change from Buying Two Calculators"

Grade 4

	Estimate Calories			Change from Buying Two Calculators		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
Nation	45 (1.4)	50 (1.5)	5 (0.7)	21 (1.4)	77 (1.6)	3 (0.5)
Northeast	47 (3.7)	47 (3.6)	6 (2.4)	26 (3.3)	73 (3.5)	1 (0.6)
Southeast	39 (3.3)	56 (3.7)	5 (1.1)	17 (2.4)	79 (2.5)	4 (1.6)
Central	50 (2.1)	46 (2.3)	4 (1.0)	20 (2.9)	78 (3.6)	2 (0.8)
West	45 (2.1)	49 (2.7)	6 (1.4)	20 (2.9)	76 (3.0)	4 (1.2)
White	52 (1.7)	44 (2.0)	5 (0.9)	23 (1.8)	75 (2.0)	2 (0.4)
Black	26 (2.6)	68 (2.8)	6 (1.5)	9 (2.3)	82 (3.6)	9 (2.8)
Hispanic	33 (3.5)	60 (3.6)	8 (1.7)	13 (2.3)	86 (2.3)	1 (0.5)
Male	44 (2.0)	52 (2.0)	4 (0.8)	20 (1.8)	78 (2.0)	3 (0.7)
Female	47 (2.0)	47 (2.1)	6 (0.9)	22 (2.2)	76 (2.4)	2 (0.9)
Advantaged Urban	54 (3.3)	44 (3.5)	3 (1.1)	26 (3.3)	74 (3.4)	1 (0.7)
Disadvantaged Urban	32 (4.6)	62 (4.8)	6 (2.5)	12 (3.4)	82 (4.6)	6 (2.7)
Extreme Rural	42 (3.7)	50 (4.8)	8 (3.3)	22 (3.7)	76 (3.2)	2 (1.4)
Other	46 (1.8)	49 (1.8)	5 (0.9)	20 (1.6)	77 (1.8)	3 (0.7)
Public	45 (1.6)	50 (1.7)	5 (0.8)	20 (1.6)	77 (1.8)	3 (0.5)
Catholic and Other Private	49 (3.6)	45 (3.7)	6 (1.4)	23 (3.3)	75 (3.1)	3 (2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.24 Percentages of Correct Responses to Regular Constructed-Response Questions with Calculator Available, "Estimate Calories" and "Change from Buying Two Calculators"

PUBLIC SCHOOLS	Grade 4 - 1992					
	Estimate Calories			Change from Buying Two Calculators		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
NATION	45 (1.6)	51 (1.8)	5 (0.8)	20 (1.6)	77 (1.8)	2 (0.5)
Northeast	45 (4.3)	48 (4.2)	7 (2.7)	26 (3.9)	73 (4.0)	1 (0.6)
Southeast	40 (3.7)	56 (4.1)	4 (1.0)	18 (2.6)	79 (2.6)	3 (1.1)
Central	50 (2.9)	48 (3.4)	2 (1.0)	19 (3.6)	80 (4.5)	2 (1.0)
West	45 (2.2)	50 (3.0)	5 (1.5)	20 (3.2)	77 (3.2)	4 (1.2)
STATES						
Alabama	38 (2.8)	59 (2.9)	3 (0.7)	16 (1.9)	84 (1.9)	1 (0.6)
Arizona	41 (2.1)	55 (2.1)	4 (0.8)	18 (1.9)	80 (2.0)	2 (0.6)
Arkansas	36 (2.0)	59 (2.1)	4 (0.9)	15 (1.7)	83 (1.7)	3 (0.7)
California	37 (2.5)	57 (2.5)	6 (1.0)	17 (2.0)	79 (1.9)	4 (0.9)
Colorado	47 (2.2)	49 (2.2)	4 (1.0)	20 (1.9)	80 (1.9)	1 (0.4)
Connecticut	49 (2.0)	46 (2.1)	5 (0.9)	23 (2.3)	76 (2.4)	1 (0.5)
Delaware	45 (2.9)	49 (2.7)	6 (1.0)	22 (2.2)	78 (2.2)	0 (0.2)
Dist. Columbia	28 (2.0)	64 (2.3)	8 (1.1)	12 (1.5)	84 (1.8)	4 (1.1)
Florida	42 (2.5)	51 (2.4)	7 (1.0)	17 (1.7)	81 (1.8)	2 (0.6)
Georgia	44 (2.2)	53 (2.2)	3 (0.8)	16 (1.8)	83 (2.1)	1 (0.8)
Hawaii	46 (2.3)	49 (2.3)	5 (1.0)	21 (1.8)	77 (2.0)	2 (0.8)
Idaho	46 (1.8)	49 (1.8)	5 (0.7)	19 (1.8)	80 (1.9)	0 (0.3)
Indiana	49 (2.4)	49 (2.3)	2 (0.6)	16 (1.4)	82 (1.5)	1 (0.5)
Iowa	51 (2.4)	45 (2.4)	4 (0.6)	26 (2.1)	74 (2.0)	0 (0.2)
Kentucky	41 (2.0)	57 (2.0)	2 (0.6)	24 (1.9)	75 (1.9)	1 (0.3)
Louisiana	38 (2.0)	59 (2.0)	3 (0.7)	12 (1.8)	85 (2.0)	3 (0.9)
Maine	55 (2.7)	43 (2.7)	3 (0.6)	24 (1.7)	75 (1.6)	0 (0.4)
Maryland	48 (2.2)	48 (2.3)	5 (1.0)	21 (2.0)	77 (2.0)	2 (0.7)
Massachusetts	49 (2.3)	42 (2.5)	9 (1.4)	24 (2.3)	75 (2.3)	2 (0.7)
Michigan	44 (1.9)	54 (1.8)	3 (0.7)	22 (2.6)	77 (2.6)	1 (0.4)
Minnesota	52 (1.8)	45 (1.8)	3 (0.7)	22 (2.0)	78 (2.1)	1 (0.4)
Mississippi	34 (2.0)	60 (2.1)	5 (1.0)	12 (1.5)	85 (1.6)	3 (0.8)
Missouri	46 (2.1)	51 (2.0)	2 (0.6)	21 (1.5)	78 (1.5)	1 (0.4)
Nebraska	50 (2.4)	46 (2.3)	4 (1.1)	24 (2.2)	75 (2.1)	1 (0.4)
New Hampshire	52 (2.5)	43 (2.4)	5 (0.8)	23 (2.3)	76 (2.4)	1 (0.6)
New Jersey	51 (2.1)	43 (2.3)	6 (1.2)	30 (2.0)	69 (2.1)	1 (0.5)
New Mexico	41 (2.7)	57 (2.8)	2 (0.5)	15 (2.0)	84 (2.1)	1 (0.5)
New York	45 (2.3)	50 (2.6)	5 (1.1)	17 (1.7)	80 (1.8)	2 (0.6)
North Carolina	36 (1.8)	60 (1.7)	4 (0.8)	18 (1.8)	80 (1.8)	2 (0.8)
North Dakota	53 (2.2)	44 (2.1)	3 (0.8)	25 (2.1)	74 (2.1)	1 (0.4)
Ohio	42 (2.2)	54 (2.1)	4 (0.8)	20 (2.0)	78 (2.1)	1 (0.5)
Oklahoma	47 (2.3)	49 (2.3)	4 (0.9)	20 (1.9)	79 (1.9)	1 (0.5)
Pennsylvania	53 (2.5)	45 (2.5)	3 (0.7)	21 (1.8)	78 (1.9)	1 (0.4)
Rhode Island	43 (2.2)	52 (2.3)	5 (1.0)	19 (2.2)	78 (2.4)	3 (0.9)
South Carolina	35 (2.0)	61 (2.0)	4 (0.8)	19 (1.8)	80 (1.8)	1 (0.5)
Tennessee	40 (2.3)	55 (2.2)	4 (0.9)	16 (1.6)	82 (1.6)	2 (0.6)
Texas	41 (2.1)	54 (2.3)	4 (0.8)	20 (2.0)	77 (2.2)	3 (0.7)
Utah	50 (1.9)	48 (2.1)	2 (0.6)	20 (1.4)	80 (1.5)	0 (0.2)
Virginia	45 (1.8)	51 (1.6)	4 (0.7)	22 (1.6)	77 (1.5)	2 (0.5)
West Virginia	39 (2.5)	56 (2.3)	5 (0.7)	15 (1.4)	84 (1.5)	1 (0.3)
Wisconsin	55 (2.2)	42 (2.0)	3 (0.7)	23 (1.9)	76 (2.0)	1 (0.4)
Wyoming	52 (2.4)	44 (2.4)	4 (1.0)	25 (2.1)	73 (2.1)	2 (0.7)
TERRITORY						
Guam	33 (2.5)	61 (2.7)	6 (1.2)	10 (1.5)	85 (2.0)	5 (1.4)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.25 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Missing Number in Box" and "Extend Pattern"

Grade 4

	Missing Number in Box			Extend Pattern		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
Nation	58 (1.3)	33 (1.2)	9 (0.9)	27 (1.5)	60 (1.5)	13 (0.9)
Northeast	66 (2.2)	23 (1.9)	10 (2.3)	41 (4.9)	48 (4.6)	11 (2.6)
Southeast	51 (3.5)	42 (3.1)	7 (1.4)	20 (3.6)	67 (3.7)	12 (1.3)
Central	62 (2.4)	32 (2.3)	6 (1.8)	27 (1.9)	60 (1.7)	13 (1.4)
West	56 (2.5)	32 (2.4)	12 (1.7)	23 (2.2)	61 (2.6)	16 (2.2)
White	63 (1.8)	30 (1.6)	7 (1.0)	30 (2.0)	58 (2.1)	11 (1.1)
Black	42 (3.1)	42 (3.2)	16 (2.6)	13 (2.4)	65 (3.1)	22 (3.2)
Hispanic	51 (2.5)	37 (2.8)	12 (2.6)	16 (2.9)	70 (4.2)	13 (2.4)
Male	57 (1.7)	35 (1.6)	8 (1.1)	28 (1.9)	56 (2.0)	17 (1.7)
Female	60 (1.7)	30 (1.7)	9 (1.2)	26 (1.9)	64 (2.2)	10 (1.4)
Advantaged Urban	70 (3.5)	25 (3.1)	5 (1.5)	43 (3.7)	50 (4.3)	7 (2.3)
Disadvantaged Urban	53 (4.4)	35 (4.2)	12 (2.1)	7 (2.5)	70 (3.8)	23 (4.2)
Extreme Rural	54 (5.5)	37 (4.2)	9 (2.7)	26 (5.8)	67 (5.2)	7 (2.6)
Other	58 (1.6)	33 (1.6)	9 (1.1)	26 (1.7)	59 (1.9)	14 (1.1)
Public	58 (1.5)	32 (1.4)	9 (1.0)	26 (1.6)	60 (1.7)	14 (1.1)
Catholic and Other Private	59 (2.8)	34 (2.9)	7 (1.2)	35 (3.6)	56 (4.4)	9 (2.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.26

Percentages of Correct Responses to Regular Constructed-Response Questions with Calculator Available, "Missing Number in Box" and "Extend Pattern"

PUBLIC SCHOOLS	Grade 4 - 1992					
	Missing Number in Box			Extend Pattern		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
NATION	58 (1.5)	33 (1.4)	9 (1.0)	26 (1.6)	64 (1.8)	10 (1.0)
Northeast	67 (2.5)	23 (2.3)	9 (2.5)	42 (5.8)	50 (5.3)	7 (2.2)
Southeast	50 (3.8)	42 (3.4)	8 (1.6)	19 (4.1)	73 (4.8)	9 (1.8)
Central	62 (2.8)	31 (2.7)	7 (2.2)	24 (2.3)	66 (2.8)	9 (2.0)
West	56 (2.7)	32 (2.8)	12 (1.8)	22 (2.2)	65 (2.5)	14 (2.3)
STATES						
Alabama	52 (2.2)	40 (2.1)	7 (1.1)	20 (2.3)	66 (2.3)	14 (1.8)
Arizona	51 (2.2)	40 (2.0)	9 (1.1)	21 (1.6)	71 (1.7)	7 (1.3)
Arkansas	53 (2.3)	40 (2.0)	7 (1.1)	20 (1.9)	68 (2.3)	11 (1.7)
California	54 (2.6)	36 (2.4)	10 (1.3)	23 (2.5)	67 (2.3)	10 (1.8)
Colorado	53 (2.3)	40 (2.2)	7 (1.0)	28 (2.1)	65 (2.3)	6 (1.0)
Connecticut	60 (2.7)	31 (2.2)	9 (1.5)	32 (2.4)	63 (2.4)	5 (1.1)
Delaware	59 (1.8)	33 (1.8)	8 (1.3)	25 (2.1)	69 (2.7)	5 (1.3)
Dist. Columbia	56 (2.3)	32 (2.0)	11 (1.5)	13 (1.7)	68 (2.4)	19 (2.0)
Florida	58 (1.7)	35 (1.5)	7 (1.1)	25 (2.3)	67 (2.1)	9 (1.3)
Georgia	56 (2.0)	37 (2.1)	7 (1.0)	29 (3.0)	64 (3.0)	7 (1.2)
Hawaii	59 (2.1)	33 (1.9)	9 (1.3)	23 (2.1)	70 (2.2)	7 (1.4)
Idaho	58 (1.8)	35 (1.8)	7 (1.2)	26 (2.5)	68 (2.3)	6 (1.2)
Indiana	57 (2.5)	37 (2.5)	6 (0.9)	23 (1.9)	72 (2.2)	6 (1.2)
Iowa	60 (1.8)	36 (1.7)	4 (0.9)	35 (2.2)	60 (2.1)	4 (0.8)
Kentucky	58 (2.3)	35 (2.1)	7 (1.1)	22 (2.4)	72 (2.6)	6 (1.0)
Louisiana	58 (2.3)	34 (2.1)	7 (1.0)	15 (1.6)	74 (2.1)	10 (1.7)
Maine	61 (2.5)	34 (2.2)	5 (1.0)	35 (2.9)	59 (3.1)	7 (1.6)
Maryland	60 (2.0)	33 (1.9)	7 (1.2)	28 (2.0)	66 (2.0)	6 (1.1)
Massachusetts	61 (2.1)	28 (2.0)	10 (1.3)	35 (2.8)	59 (2.7)	7 (1.5)
Michigan	61 (2.1)	34 (2.3)	6 (0.9)	26 (3.0)	68 (2.4)	6 (1.5)
Minnesota	62 (2.1)	32 (1.9)	6 (1.1)	33 (2.6)	61 (2.8)	6 (1.1)
Mississippi	53 (2.4)	38 (2.4)	9 (1.2)	14 (1.7)	75 (2.1)	11 (1.6)
Missouri	56 (2.4)	36 (2.2)	8 (1.0)	24 (2.3)	68 (2.7)	8 (1.4)
Nebraska	60 (2.4)	35 (2.3)	6 (1.0)	33 (2.5)	63 (2.3)	4 (1.0)
New Hampshire	61 (2.7)	31 (2.2)	9 (1.4)	33 (2.9)	61 (2.9)	6 (1.5)
New Jersey	65 (2.4)	28 (1.9)	7 (1.2)	36 (2.8)	59 (3.1)	5 (1.2)
New Mexico	62 (2.7)	33 (2.5)	5 (1.1)	19 (2.8)	73 (3.6)	9 (2.0)
New York	58 (2.1)	35 (2.3)	8 (1.5)	25 (2.5)	69 (2.8)	6 (1.3)
North Carolina	57 (2.1)	36 (1.8)	8 (1.0)	22 (2.0)	69 (2.2)	9 (1.1)
North Dakota	61 (1.7)	35 (1.7)	4 (0.9)	33 (2.4)	63 (2.4)	4 (1.1)
Ohio	60 (2.0)	35 (1.9)	5 (0.9)	23 (2.2)	71 (2.4)	6 (1.0)
Oklahoma	61 (2.3)	32 (2.0)	7 (1.3)	21 (1.6)	74 (1.7)	5 (1.0)
Pennsylvania	63 (2.0)	33 (1.9)	4 (0.8)	26 (2.1)	68 (2.1)	6 (1.3)
Rhode Island	54 (2.8)	39 (2.5)	7 (0.9)	20 (2.1)	72 (2.6)	8 (1.4)
South Carolina	52 (2.0)	40 (1.8)	8 (1.1)	21 (1.9)	71 (2.0)	8 (1.3)
Tennessee	57 (2.1)	36 (1.9)	7 (1.0)	26 (2.3)	66 (2.6)	8 (1.4)
Texas	63 (1.8)	32 (1.8)	4 (0.8)	25 (2.5)	64 (2.8)	11 (1.7)
Utah	60 (1.7)	34 (1.8)	6 (1.0)	29 (2.5)	65 (2.6)	6 (1.0)
Virginia	61 (1.9)	33 (2.0)	6 (1.0)	28 (2.4)	66 (2.7)	6 (1.1)
West Virginia	53 (1.9)	40 (1.9)	7 (1.1)	24 (2.2)	66 (2.6)	10 (1.3)
Wisconsin	66 (2.1)	28 (1.9)	6 (0.9)	33 (2.4)	62 (2.3)	4 (1.0)
Wyoming	61 (2.1)	33 (1.9)	6 (0.9)	26 (2.2)	68 (2.3)	5 (1.1)
TERRITORY						
Guam	49 (2.5)	43 (2.7)	9 (1.4)	15 (2.1)	69 (2.6)	16 (2.0)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.27 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Raymond's Report" and "Area of Trapezoid"

Grade 8

	Raymond's Report			Area of Trapezoid		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
Nation	52 (1.4)	46 (1.4)	3 (0.4)	10 (0.9)	81 (1.3)	9 (0.8)
Northeast	58 (3.5)	38 (3.5)	4 (0.7)	9 (1.4)	80 (1.7)	11 (1.5)
Southeast	42 (2.9)	54 (3.1)	4 (1.1)	9 (1.9)	82 (2.8)	9 (1.3)
Central	61 (3.3)	39 (3.4)	0 (0.2)	10 (1.9)	84 (2.1)	5 (0.8)
West	48 (1.9)	49 (1.6)	3 (1.0)	10 (2.0)	79 (3.0)	11 (2.3)
White	62 (1.7)	36 (1.7)	2 (0.4)	12 (1.2)	80 (1.4)	8 (0.7)
Black	20 (3.2)	74 (3.5)	6 (1.1)	2 (1.1)	84 (3.8)	14 (3.3)
Hispanic	30 (3.7)	65 (3.8)	5 (1.4)	3 (1.3)	88 (2.3)	9 (1.9)
Male	51 (2.3)	46 (2.4)	3 (0.6)	10 (1.4)	79 (2.[illegible])	12 (1.4)
Female	52 (1.9)	45 (1.9)	2 (0.5)	9 (1.2)	84 (1.5)	[illegible] (0.9)
Advantaged Urban	66 (5.3)	34 (5.3)	0 (0.0)	19 (3.8)	70 (4.0)	11 (4.9)
Disadvantaged Urban	25 (4.5)	68 (4.8)	6 (1.7)	4 (1.3)	82 (2.8)	14 (3.1)
Extreme Rural	55 (8.2)	45 (8.1)	0 (0.4)	9 (3.3)	83 (4.8)	8 (2.7)
Other	52 (1.6)	44 (1.6)	3 (0.6)	9 (1.2)	83 (1.5)	9 (0.7)
Public	50 (1.5)	47 (1.5)	3 (0.5)	9 (1.0)	82 (1.4)	9 (0.9)
Catholic and Other Private	62 (3.2)	35 (3.2)	3 (0.6)	12 (2.0)	78 (2.5)	9 (1.6)

Grade 12

	Raymond's Report			Area of Trapezoid		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
Nation	72 (1.4)	25 (1.4)	2 (0.5)	23 (1.6)	67 (1.6)	10 (0.9)
Northeast	75 (2.2)	23 (2.3)	2 (0.9)	26 (2.8)	64 (3.4)	10 (1.6)
Southeast	68 (2.8)	28 (2.7)	3 (1.1)	16 (2.3)	77 (2.2)	7 (1.5)
Central	78 (1.9)	21 (2.2)	2 (0.9)	26 (3.2)	64 (2.1)	10 (2.4)
West	69 (3.5)	29 (3.7)	2 (0.6)	24 (4.2)	65 (4.3)	11 (1.4)
White	78 (1.3)	20 (1.3)	1 (0.3)	27 (2.1)	63 (1.8)	10 (1.1)
Black	51 (4.2)	44 (4.7)	5 (1.5)	8 (1.9)	81 (3.0)	12 (2.6)
Hispanic	62 (5.9)	34 (6.2)	4 (2.4)	14 (2.3)	80 (2.5)	6 (1.8)
Male	74 (2.0)	23 (2.0)	4 (0.9)	24 (1.7)	65 (1.8)	10 (1.2)
Female	71 (1.9)	28 (1.9)	1 (0.3)	22 (2.4)	68 (2.2)	9 (1.3)
Advantaged Urban	79 (3.6)	21 (3.7)	0 (0.2)	46 (4.8)	50 (4.6)	4 (1.4)
Disadvantaged Urban	62 (3.4)	33 (3.8)	5 (1.4)	10 (2.1)	79 (2.7)	11 (2.3)
Extreme Rural	73 (3.8)	25 (3.5)	2 (1.0)	25 (4.0)	68 (2.7)	8 (2.4)
Other	73 (1.5)	25 (1.6)	2 (0.6)	21 (1.6)	68 (1.9)	11 (1.0)
Public	72 (1.5)	26 (1.5)	2 (0.5)	21 (1.9)	70 (1.8)	10 (0.9)
Catholic and Other Private	79 (2.4)	20 (2.4)	2 (0.8)	42 (3.4)	49 (3.5)	9 (1.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent of 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less ere rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 5.28 | Percentages of Correct Responses to Regular Constructed-Response Questions with Calculator Available, "Raymond's Report" and "Area Trapezoid"

PUBLIC SCHOOLS	Grade 8 - 1992					
	Raymond's Report			Area of Trapezoid		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
NATION	50 (1.5)	47 (1.5)	3 (0.5)	9 (1.0)	84 (1.4)	7 (0.9)
Northeast	58 (4.1)	39 (4.1)	3 (0.8)	7 (1.9)	84 (2.2)	9 (1.7)
Southeast	38 (2.5)	58 (2.9)	4 (1.2)	9 (2.1)	84 (3.2)	7 (1.6)
Central	60 (3.7)	40 (3.7)	0 (0.0)	10 (2.3)	86 (2.6)	4 (1.1)
West	47 (2.0)	49 (1.7)	3 (1.1)	9 (2.0)	81 (2.9)	9 (2.3)
STATES						
Alabama	41 (2.3)	57 (2.3)	2 (0.7)	4 (0.7)	90 (1.4)	6 (1.3)
Arizona	53 (2.2)	44 (2.2)	3 (0.7)	9 (1.3)	84 (1.7)	7 (1.0)
Arkansas	43 (1.9)	55 (2.0)	3 (0.6)	5 (0.8)	89 (1.2)	5 (0.8)
California	48 (2.3)	48 (2.2)	4 (0.9)	10 (1.3)	80 (1.6)	10 (1.2)
Colorado	56 (1.9)	41 (1.9)	2 (0.7)	9 (1.4)	84 (1.5)	7 (1.2)
Connecticut	58 (2.2)	40 (2.3)	2 (0.5)	12 (1.4)	83 (1.7)	5 (0.9)
Delaware	54 (2.7)	43 (2.3)	2 (0.9)	6 (1.3)	87 (1.6)	7 (1.2)
Dist. Columbia	30 (2.8)	62 (2.8)	8 (1.2)	3 (1.1)	88 (2.1)	9 (1.7)
Florida	52 (2.1)	44 (2.1)	4 (0.9)	6 (0.9)	88 (1.4)	7 (1.1)
Georgia	45 (2.3)	53 (2.5)	3 (0.8)	5 (1.0)	92 (1.3)	3 (0.7)
Hawaii	48 (2.1)	49 (2.1)	3 (0.8)	8 (1.2)	82 (1.8)	9 (1.3)
Idaho	58 (1.7)	40 (1.7)	2 (0.6)	13 (1.6)	82 (1.8)	6 (0.9)
Indiana	55 (2.0)	43 (1.9)	2 (0.6)	9 (1.3)	86 (1.5)	5 (1.0)
Iowa	71 (2.2)	28 (2.3)	2 (0.5)	13 (1.5)	84 (1.5)	3 (0.7)
Kentucky	54 (2.3)	43 (2.2)	2 (0.7)	7 (1.1)	89 (1.3)	5 (0.8)
Louisiana	42 (2.5)	54 (2.4)	5 (1.1)	4 (1.1)	90 (1.6)	6 (1.4)
Maine	67 (2.3)	32 (2.3)	1 (0.4)	12 (1.5)	83 (1.6)	5 (1.0)
Maryland	54 (2.4)	42 (2.2)	3 (0.9)	9 (1.5)	82 (2.0)	9 (1.4)
Massachusetts	59 (2.6)	39 (2.6)	2 (0.7)	9 (1.1)	84 (1.4)	7 (1.0)
Michigan	55 (2.1)	43 (2.2)	2 (0.7)	10 (1.4)	84 (1.6)	6 (1.1)
Minnesota	66 (1.7)	32 (1.7)	2 (0.6)	15 (1.7)	80 (1.9)	5 (1.0)
Mississippi	35 (2.1)	62 (2.2)	4 (0.9)	3 (0.7)	90 (1.1)	7 (1.1)
Missouri	53 (1.9)	46 (1.9)	1 (0.5)	8 (1.2)	87 (1.7)	5 (1.1)
Nebraska	58 (2.3)	41 (2.3)	1 (0.4)	12 (1.5)	85 (1.7)	3 (0.6)
New Hampshire	63 (2.1)	36 (2.1)	1 (0.4)	13 (1.5)	82 (1.7)	5 (1.1)
New Jersey	59 (3.2)	38 (3.1)	3 (0.9)	9 (1.7)	85 (2.2)	6 (1.0)
New Mexico	46 (2.2)	52 (2.2)	2 (0.6)	7 (1.1)	87 (1.6)	6 (1.0)
New York	55 (2.4)	43 (2.4)	2 (0.8)	12 (1.7)	85 (1.9)	4 (0.8)
North Carolina	48 (1.9)	50 (1.9)	2 (0.6)	5 (0.9)	90 (1.1)	5 (0.8)
North Dakota	67 (2.0)	32 (2.0)	1 (0.5)	16 (1.8)	80 (1.8)	4 (0.9)
Ohio	58 (2.3)	41 (2.2)	1 (0.4)	6 (1.0)	89 (1.4)	5 (0.9)
Oklahoma	59 (2.5)	39 (2.5)	2 (0.5)	8 (1.2)	87 (1.3)	4 (0.9)
Pennsylvania	56 (2.5)	42 (2.6)	2 (0.6)	10 (1.3)	86 (1.6)	5 (1.0)
Rhode Island	54 (2.2)	45 (2.1)	1 (0.5)	6 (1.0)	90 (1.3)	4 (0.8)
South Carolina	44 (2.5)	54 (2.4)	3 (0.7)	8 (1.1)	87 (1.3)	5 (0.9)
Tennessee	44 (2.4)	53 (2.4)	3 (0.6)	5 (1.0)	89 (1.3)	6 (0.9)
Texas	51 (2.3)	45 (2.2)	4 (0.6)	9 (1.2)	85 (1.5)	6 (1.0)
Utah	61 (1.8)	38 (1.8)	1 (0.3)	10 (1.3)	86 (1.4)	4 (0.9)
Virginia	57 (2.1)	42 (2.0)	2 (0.6)	8 (1.1)	87 (1.2)	5 (1.0)
West Virginia	52 (2.2)	46 (2.1)	2 (0.5)	5 (0.8)	90 (1.3)	6 (1.1)
Wisconsin	65 (1.7)	34 (1.6)	1 (0.4)	11 (1.3)	85 (1.3)	4 (0.7)
Wyoming	61 (2.2)	38 (2.3)	2 (0.6)	9 (1.1)	86 (1.3)	5 (0.8)
TERRITORIES						
Guam	29 (2.8)	66 (2.8)	6 (1.2)	4 (1.0)	88 (1.6)	9 (1.4)
Virgin Islands	18 (1.8)	69 (2.1)	14 (1.9)	1 (0.5)	82 (2.0)	17 (2.1)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.29 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Video Rental Costs" and "Area of Parallelogram"

Grade 12

	Video Rental Costs			Area of Parallelogram		
	Correct	Incorrect	No Response	Correct	Incorrect	No Response
Nation	5 (0.7)	92 (0.9)	3 (0.5)	8 (1.0)	80 (1.4)	12 (1.1)
Northeast	8 (2.5)	90 (3.1)	2 (0.7)	9 (2.7)	78 (4.4)	13 (2.3)
Southeast	6 (1.1)	92 (1.6)	3 (1.1)	4 (0.6)	86 (2.0)	10 (2.0)
Central	4 (1.0)	96 (1.1)	1 (0.3)	10 (2.0)	79 (2.1)	11 (2.1)
West	4 (1.4)	90 (1.9)	6 (1.3)	8 (2.1)	77 (2.3)	14 (2.2)
White	6 (0.9)	92 (1.0)	2 (0.5)	9 (1.3)	80 (1.7)	11 (1.1)
Black	2 (1.2)	94 (2.2)	4 (1.5)	1 (0.5)	85 (2.6)	15 (2.6)
Hispanic	0 (0.0)	92 (4.5)	8 (4.5)	2 (1.4)	77 (4.3)	21 (4.5)
Male	6 (0.9)	90 (1.4)	4 (1.0)	8 (1.4)	81 (1.7)	11 (1.2)
Female	5 (1.1)	94 (1.5)	2 (0.6)	7 (1.2)	79 (2.1)	14 (1.8)
Advantaged Urban	8 (3.4)	89 (4.0)	3 (1.7)	14 (2.9)	74 (3.4)	11 (1.8)
Disadvantaged Urban	6 (2.4)	88 (4.1)	7 (2.1)	1 (0.5)	85 (2.7)	14 (2.5)
Extreme Rural	5 (1.3)	93 (1.9)	2 (1.0)	6 (2.2)	82 (4.2)	12 (4.4)
Other	5 (0.9)	93 (1.1)	2 (0.7)	8 (1.5)	80 (1.9)	12 (1.4)
Public	5 (0.7)	92 (0.9)	3 (0.5)	7 (0.8)	81 (1.2)	13 (1.2)
Catholic and Other Private	7 (2.2)	91 (2.3)	2 (1.0)	15 (4.2)	75 (5.3)	10 (1.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages or less were rounded to 0 percent. Percentages may total 100 percent due to rounding error.

TABLE 5.30 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Graph Pulse Rates" and "F(3.5)"

Grade 12

	Graph Pulse Rates			F(3.5)		
	Correct	**Incorrect**	**No Response**	**Correct**	**Incorrect**	**No Response**
Nation	9 (1.0)	77 (1.3)	14 (1.0)	39 (1.6)	40 (1.5)	22 (1.4)
Northeast	10 (2.1)	74 (2.5)	16 (1.8)	40 (2.5)	35 (2.2)	24 (2.9)
Southeast	5 (1.1)	79 (2.4)	17 (2.4)	31 (2.6)	46 (3.4)	23 (3.2)
Central	10 (1.7)	80 (1.7)	10 (1.4)	45 (4.0)	37 (3.2)	18 (2.4)
West	9 (2.5)	77 (2.7)	14 (1.8)	39 (2.6)	40 (3.0)	21 (2.4)
White	11 (1.3)	75 (1.5)	14 (1.1)	43 (1.8)	36 (1.3)	21 (1.6)
Black	0 (0.0)	86 (2.9)	14 (2.9)	23 (4.1)	55 (4.9)	22 (3.5)
Hispanic	1 (0.6)	83 (3.3)	16 (3.2)	25 (5.7)	44 (9.0)	31 (5.9)
Male	11 (1.6)	75 (1.8)	14 (1.3)	37 (2.1)	40 (2.1)	23 (1.9)
Female	6 (1.0)	80 (1.9)	14 (1.7)	41 (2.0)	39 (1.7)	20 (1.9)
Advantaged Urban	19 (4.4)	69 (4.7)	12 (3.6)	58 (5.3)	26 (3.0)	16 (4.0)
Disadvantaged Urban	1 (0.8)	84 (3.1)	15 (2.8)	25 (3.7)	50 (4.1)	25 (3.4)
Extreme Rural	8 (2.3)	77 (2.4)	16 (3.2)	28 (6.0)	51 (5.1)	21 (4.9)
Other	8 (1.1)	78 (1.7)	14 (1.4)	40 (1.7)	38 (1.8)	22 (1.5)
Public	8 (1.1)	78 (1.4)	14 (1.2)	37 (1.7)	40 (1.7)	22 (1.6)
Catholic and Other Private	15 (2.7)	74 (3.1)	10 (1.7)	50 (3.0)	33 (2.1)	17 (1.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent of 100 percent, the standard error is inestimable. However percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 5.31 National Results for Demographic Subgroups for the Regular Constructed-Response Tasks, "Trigonometry"

Grade 12

	Correct	Incorrect	No Response
Nation	7 (0.5)	84 (1.0)	10 (0.8)
Northeast	8 (1.3)	80 (2.0)	12 (1.7)
Southeast	3 (0.8)	89 (2.2)	8 (1.7)
Central	10 (1.2)	82 (1.8)	9 (1.5)
West	5 (1.2)	86 (1.8)	10 (1.7)
White	8 (0.7)	83 (1.2)	10 (1.0)
Black	1 (0.9)	90 (2.5)	9 (2.4)
Hispanic	2 (1.2)	90 (4.0)	8 (3.3)
Male	8 (1.0)	82 (1.3)	10 (1.1)
Female	6 (1.0)	85 (1.5)	9 (1.1)
Advantaged Urban	14 (2.3)	76 (3.2)	10 (2.7)
Disadvantaged Urban	2 (1.0)	86 (3.1)	12 (2.6)
Extreme Rural	3 (1.1)	88 (3.7)	9 (3.8)
Other	7 (0.8)	84 (1.3)	9 (1.0)
Public	6 (0.7)	85 (1.1)	10 (0.9)
Catholic and Other Private	13 (2.2)	79 (2.4)	8 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may total 100 percent due to rounding error.

Extended
Constructed-Response Questions

Grade 4 Question: Pizza

The Task

Think carefully about the following question. Write a complete answer. You may use drawings, words, and numbers to explain your answer. Be sure to show all of your work.

10. José ate $\frac{1}{2}$ of a pizza.

Ella ate $\frac{1}{2}$ of another pizza.

José said that he ate more pizza than Ella, but Ella said they both ate the same amount. Use words and pictures to show that José could be right.

Possible Solution

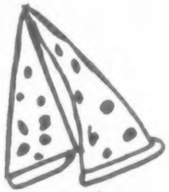
Jose would be right if the size of his pizza was larger than the size of Ella's pizza. More generally, students are expected to communicate by pictures and/or words that half of a larger quantity is more than half of a smaller quantity.

Students with only a naive understanding of the meaning of "1/2" in the context of the given task are likely to indicate "1/2 = 1/2" because they do not realize the potential for the two quantities being compared, the pizzas, to be different in size. Students with a higher level of comprehension can show some evidence that size is an important factor but are unable to convey how the comparison of the two pizzas is related to their relative sizes. Students with the highest level of understanding of the meaning of "1/2" in the context of the given problem can demonstrate responses that, at least informally, demonstrate what the fraction 1/2 means in terms of relative sizes of pizzas.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
7 (0.8)	0	**No Response**
49 (1.7)	1	**Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

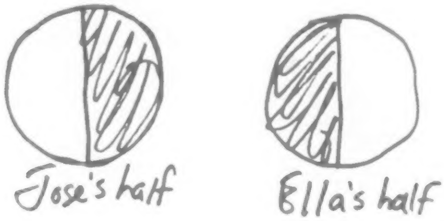
This INCORRECT response does not involve the concept of one-half of a whole pizza.



José ate $\frac{1}{2}$

National Percent for Each Category*	Rating and Performance Category	
18 (1.1)	2	**Minimal -- Student responds that "1/2 is always 1/2" indicating an awareness of fractional parts. Other responses may include only references to number of pizzas or to toppings.**

This MINIMAL response indicates an understanding of the concept of 1/2 as a fractional part of a whole, but states 1/2 is always equal to 1/2.



Jose ate his $\frac{1}{2}$ and Ella ate her $\frac{1}{2}$ they both had $\frac{1}{2}$ and they both ate the same amount.

---

* The standard errors of the estimated percentages appear in parentheses.

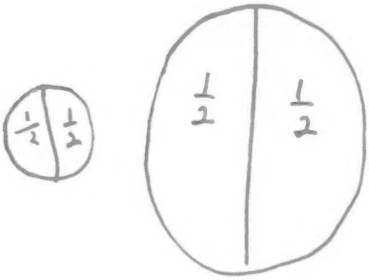
National Percent for Each Category	Rating and Performance Category	
2 (0.5)	3	**Partial -- Student makes statements such as "Jose's pizza has bigger pieces" that begin to demonstrate an awareness of the idea of relative size.**

This PARTIAL response does give an indication that Jose's pizza may be larger.

$\frac{1}{2}$ $\cancel{\frac{1}{2}}$ Jose could
be right
because it
is a maybe
bigger pise
of pizza.

8 (0.8)	4	**Satisfactory -- Student displays responses that connect figuraly the relationship between the difference in the relative size of Jose's and Ella's pizzas but are not clear in explaining that relationship.**

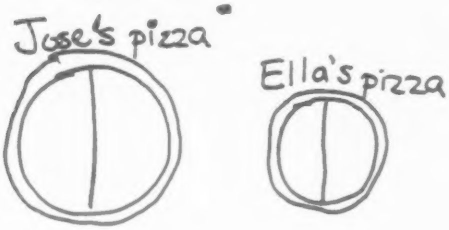
This SATISFACTORY response uses diagrams to clearly show two different-sized pizzas and to illustrate that the respective halves of those pizzas are not the same size.



National Percent for Each Category	Rating and Performance Category
16 (1.2)	5 **Extended** -- Student explains and/or demonstrates a clear understanding of fractional part and relative size.

This strong EXTENDED response provides drawings of two different-sized pizzas, each divided into halves and labelled appropriately. The student also has written a clear and accurate description of the situation.

José could be right because his pizza could be bigger than Ella's.



Grade 4 Question: Laura's Calculator Correction

The Task

Think carefully about the following question. Write a complete answer. You may use drawings, words, and numbers to explain your answer. Be sure to show all of your work.

Laura wanted to enter the number 8375 into her calculator. By mistake, she entered the number 8275. Without clearing the calculator, how could she correct her mistake?

Without clearing the calculator, how could she correct her mistake another way?

Did you use the calculator on this question?

Yes No

Possible Solution

Laura could add 100 to the number in the display because she needs to increase the digit in the hundreds' place by 1.

She also could add 50 two times or 25 four times, or add 1,000 and subtract 900.

She also could describe any other series of arithmetic operations that yields 8375.

Students with a minimal understanding have essentially cleared the calculator by means other than using the **on/c**, **c**, or **ce** buttons. They have demonstrated no understanding of place value. Students at a higher level are beginning to understand place value, but may have focused on the tens' or the thousands' place, rather than the hundreds' place. For a complete response, it is critical that students realize 100 needs to be added to 8275 in order for the calculator screen to display 8375. This can be done without clearing the calculator either directly by the addition of 100 or by performing a series of appropriate arithmetic operations (such as adding ten 10's or by subtracting 1900 and adding 2000) that results in the addition of 100.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
17 (1.3)	0	**No Response**
44 (1.6)	1	**Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

This INCORRECT response is irrelevant since it ignored the condition given in the problem – that the calculator could not be cleared.

Clear and stat all over.

National Percent for Each Category	Rating and Performance Category	
9 (0.8)	2	**Minimal -- Student's response involves attaining a display of 0 on the calculator with a method other than using the on/c, c, or ce keys. Responses in this category demonstrate no connection between place value and arithmetic operations in this problem setting.**
This is a MINIMAL response in which the student was able to obtain a 0 on the calculator display without the use of the on/c, c, or ce keys on the calculator.		Subtract the number she made a mistake on, and she'll get the number 0 and it's clear.
10 (1.1)	3	**Partial -- Student's response begins to connect place value and arithmetic operations as both being necessary to change 8275 to 8375 without clearing the calculator. Errors in arithmetic and/or understanding are evident.**
This is a PARTIAL response, in which the student realizes a 1 must be added to the 2, but makes a place value error.		She could add 1.
		She could add 2 and subtract 1.

---

* The standard errors of the estimated percentages appear in parentheses.

National Percent for Each Category

Rating and Performance Category

13 (1.2)

4 **Satisfactory -- Student's response describes only one correct way to change 8275 to 8375.**

This SATISFACTORY response shows one clear method that corrects the place value mistake without clearing the calculator.

$$\begin{array}{r} 8,275 \\ +\ 100 \\ \hline 8,375 \end{array}$$

$$\begin{array}{r} 8,375 \\ -\ 100 \\ \hline 8,275 \end{array}$$

7 (0.9)

5 **Extended -- Student's response describes two correct ways to change 8275 to 8375.**

This EXTENDED response shows two different ways to correct the place value mistake without the need to clear the calculator.

She could
add 100 more

If she subtracted
100 she could
add 200.

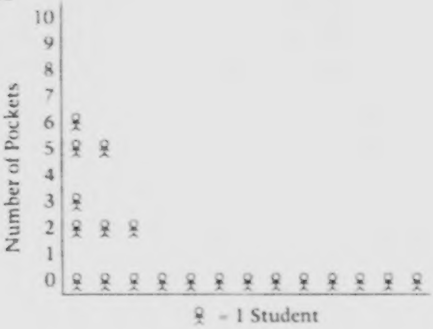
Grade 4 Question: Graphs of Pockets

The Task

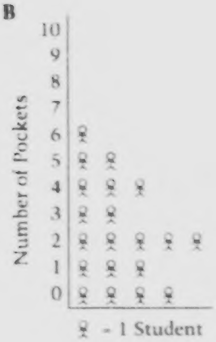
Think carefully about the following question. Write a complete answer. You may use drawings, words, and numbers to explain your answer. Be sure to show all of your work.

There are 20 students in Mr. Pang's class. On Tuesday most of the students in the class said they had pockets in the clothes they were wearing.

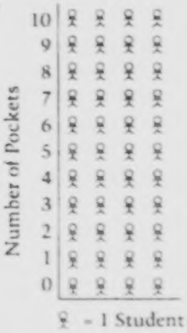
A



B



C



The Task (continued)

Which of the graphs most likely shows the number of pockets that each child had? ______________

Explain why you chose that graph

Explain why you did not choose the other graphs

Possible Solution

Graph B, because it had 20 students and most of the students have clothes with pockets, or the distribution of the number of pockets is reasonable.

It could not be Graph A because most of the students do not have pockets.

It could not be Graph C since there are more than 20 students shown.

> OR, it is not likely that there would be the same number of students for each number of pockets.
>
> OR, most clothes don't have 10 pockets.

Students need to understand the information provided in the question in order to study and determine which graphical representation most accurately depicts the given data and why the other graphs are inappropriate. The essential facts that students need to comprehend are:

- ♦ There are 20 students in Mr. Pang's class. (Thus, Graph C is inappropriate because more than 20 students are represented. Additionally, the distribution of the number of pockets is unreasonable.)

- ♦ Most students in Mr. Pang's class have clothes with pockets. (Thus, Graph A is inappropriate because most of the 20 students have clothes that do not have pockets.)

Therefore, in reviewing the graphs, only Graph B reasonably conveys the given information accurately since 20 students are represented and most of these students have clothes with pockets. In extended solutions to this task, students must clearly communicate a rationale for the graph they select and explain why the other graphs are inappropriate.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
6 (0.7)	0	**No Response**
46 (1.4)	1	**Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

This is an INCORRECT response. The student may have picked Graph C because of its rectangular shape. This is inappropriate because it does not use any of the information given about the number of students in the class or that most students had clothes with pockets.

C

because they are all equal

because they are not equal

23 (1.2)	2	**Minimal -- Student chooses Graph B with no explanation or the student chooses Graph A or Graph C with an explanation that shows some understanding.**

This is a MINIMAL solution since the student did not select Graph B, the most appropriate graph to display the data, but did give a reason that showed some understanding.

A

I did because A had 20 Students.

I did because they had more than 20 students.

---

* The standard errors of the estimated percentages appear in parentheses.

National Percent for Each Category	Rating and Performance Category	
15 (0.8)	3	**Partial -- Student chooses Graph B but does not give an adequate explanation or student chooses Graph B but gives no explanation why, but explains why the answer is neither Graph A nor Graph C.**
This is a PARTIAL response. The student did select the most appropriate graph, B, but did not give a complete explanation of why neither Graph A nor Graph C was the best choice.		B I chose B because most of the people had pockets. I didn't choose the other graphs because more people didn't have pockets.
7 (0.7)	4	**Satisfactory -- Student chooses Graph B and gives a good explanation but does not mention the other graphs, or student gives a good explanation of why the answer cannot be Graph A or Graph C, but does not give a good explanation of why the answer is Graph B.**
This is a SATISFACTORY response since the student did select Graph B and also provided a complete explanation by indicating there were 20 people and most of them had pockets. However, the student did not provide any information about why Graphs A and C were inappropriate.		B B had a total of 20 and not that many people had a pockets

National Percent for Each Category	**Rating and Performance Category**	
3 (0.6)	5	**Extended -- Student chooses Graph B, explains why the answer must be Graph B, and explains why neither Graph A nor Graph C can be the correct solution.**

This is an EXTENDED response. The student selects Graph B and gives a clear and accurate explanation. In like fashion, the student conveys correct and concise reasons for not choosing either Graph A or Graph C.

B

I chose gragh B because I could read it better, and at the top it said that most of the kids had pockets in their clothes. gragh A had a hole bunch of kids who didn't have pockets- I think gragh B explained it better

I did not chose the other graghs because gragh C had too many kids in the gragh and gragh A had to many kids didn't have pockets in their clothes

TABLE 5.32 National Results for Demographic Subgroups for the Extended-Response Question, "Pizza Comparison"

Grade 4

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	7 (0.8)	49 (1.7)	18 (1.1)	2 (0.5)	8 (0.8)	16 (1.2)	23 (1.3)
Northeast	7 (2.1)	42 (4.6)	19 (3.2)	3 (1.2)	8 (2.3)	21 (3.5)	29 (4.3)
Southeast	6 (1.1)	55 (4.2)	17 (2.1)	2 (0.6)	6 (1.2)	14 (2.0)	20 (2.4)
Central	7 (1.7)	49 (2.8)	18 (1.7)	3 (1.3)	8 (2.0)	15 (2.6)	23 (2.2)
West	8 (1.6)	50 (2.7)	18 (2.0)	2 (0.8)	9 (1.1)	14 (2.0)	23 (2.1)
White	6 (0.9)	44 (2.1)	20 (1.3)	2 (0.6)	9 (1.2)	19 (1.5)	28 (1.7)
Black	11 (2.7)	65 (3.5)	13 (2.3)	2 (1.0)	6 (1.9)	3 (1.3)	9 (2.1)
Hispanic	7 (1.9)	64 (3.6)	16 (3.1)	1 (0.5)	5 (1.7)	8 (2.3)	12 (2.8)
Male	9 (1.2)	48 (2.4)	15 (1.3)	2 (0.5)	8 (1.3)	17 (2.0)	26 (2.0)
Female	5 (0.9)	51 (2.2)	20 (1.7)	3 (0.8)	7 (1.0)	14 (1.2)	21 (1.4)
Advantaged Urban	3 (1.3)	41 (4.1)	16 (2.7)	4 (1.6)	10 (2.6)	26 (4.0)	35 (3.6)
Disadvantaged Urban	8 (2.2)	68 (5.3)	10 (2.3)	0 (0.3)	10 (3.5)	4 (1.6)	14 (3.5)
Extreme Rural	7 (2.3)	55 (4.6)	17 (2.9)	2 (1.2)	4 (1.5)	14 (3.5)	18 (3.7)
Other	8 (1.1)	47 (2.2)	20 (1.3)	2 (0.7)	8 (0.9)	16 (1.6)	23 (1.6)
Public	8 (0.9)	49 (1.9)	18 (1.3)	2 (0.6)	8 (0.9)	15 (1.3)	23 (1.5)
Catholic and Other Private	3 (1.2)	51 (3.0)	18 (2.3)	4 (1.1)	5 (1.4)	18 (2.3)	23 (2.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 5.33 | Percentages for Responses to Extended-Response Question, "Pizza Comparision"

PUBLIC SCHOOLS	Grade 4 - 1992						
	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
NATION	8 (0.9)	49 (1.9)	18 (1.3)	2 (0.6)	8 (0.9)	15 (1.3)	23 (1.5)
Northeast	8 (2.3)	41 (5.0)	19 (3.9)	2 (1.4)	8 (2.4)	22 (4.3)	29 (5.1)
Southeast	7 (1.2)	55 (4.7)	17 (2.3)	1 (0.6)	6 (1.4)	14 (2.2)	20 (2.7)
Central	8 (1.9)	49 (3.5)	18 (2.0)	3 (1.5)	8 (2.1)	14 (2.8)	23 (2.8)
West	8 (1.7)	50 (2.8)	17 (2.2)	2 (1.0)	10 (1.2)	13 (2.0)	23 (2.1)
STATES							
Alabama	5 (0.8)	57 (2.9)	18 (2.2)	3 (0.7)	4 (0.8)	12 (1.7)	16 (1.7)
Arizona	5 (1.1)	56 (2.2)	18 (1.5)	2 (0.6)	6 (1.0)	12 (1.3)	19 (1.6)
Arkansas	4 (0.9)	57 (2.3)	17 (1.7)	2 (0.7)	6 (1.2)	14 (1.5)	20 (1.7)
California	10 (1.5)	55 (2.7)	18 (1.5)	2 (0.7)	3 (0.8)	11 (1.7)	14 (1.9)
Colorado	5 (0.8)	51 (2.1)	19 (1.7)	4 (0.6)	6 (0.7)	16 (1.3)	21 (1.5)
Connecticut	7 (0.9)	46 (2.0)	17 (1.6)	3 (0.7)	5 (1.0)	23 (1.5)	27 (1.9)
Delaware	4 (1.0)	58 (2.6)	16 (1.8)	1 (0.6)	7 (1.4)	14 (1.2)	21 (1.5)
Dist. Columbia	10 (1.3)	63 (1.9)	13 (1.5)	1 (0.6)	6 (1.0)	7 (1.3)	12 (1.6)
Florida	6 (1.1)	56 (2.3)	16 (1.6)	3 (0.8)	4 (0.8)	13 (1.3)	17 (1.4)
Georgia	4 (0.9)	52 (2.2)	17 (1.7)	2 (0.6)	8 (1.2)	17 (1.4)	25 (1.7)
Hawaii	6 (1.1)	56 (2.3)	17 (1.9)	3 (0.8)	6 (1.1)	11 (1.3)	17 (1.8)
Idaho	6 (1.1)	50 (2.1)	19 (1.5)	3 (0.8)	7 (0.9)	16 (1.8)	23 (2.0)
Indiana	4 (0.7)	50 (3.0)	19 (2.0)	4 (0.8)	6 (1.1)	18 (1.9)	24 (2.3)
Iowa	3 (0.9)	48 (2.1)	17 (1.6)	3 (0.5)	8 (1.3)	21 (1.8)	29 (1.6)
Kentucky	4 (0.9)	57 (2.6)	15 (1.8)	3 (0.6)	5 (1.0)	16 (1.8)	21 (2.0)
Louisiana	7 (1.1)	61 (2.2)	16 (1.7)	2 (0.7)	5 (0.9)	9 (1.4)	14 (1.5)
Maine	4 (0.9)	40 (2.7)	22 (2.2)	4 (1.1)	9 (1.3)	21 (2.3)	30 (2.3)
Maryland	5 (1.0)	48 (1.8)	23 (2.0)	3 (0.6)	5 (0.9)	16 (1.4)	21 (1.6)
Massachusetts	4 (0.8)	50 (2.9)	21 (2.3)	2 (0.6)	5 (1.1)	17 (2.2)	22 (2.3)
Michigan	5 (1.0)	52 (2.7)	19 (1.9)	3 (0.6)	7 (1.3)	14 (1.7)	21 (1.8)
Minnesota	4 (0.9)	51 (2.4)	16 (1.7)	3 (0.6)	6 (1.1)	21 (2.0)	27 (2.0)
Mississippi	6 (1.1)	65 (2.1)	16 (1.7)	2 (0.6)	3 (0.6)	8 (1.2)	11 (1.3)
Missouri	4 (0.9)	50 (2.1)	17 (1.8)	2 (0.7)	7 (1.1)	19 (1.8)	26 (2.1)
Nebraska	4 (1.0)	49 (2.6)	18 (1.8)	3 (0.7)	7 (1.3)	19 (2.5)	26 (2.5)
New Hampshire	5 (1.2)	42 (2.7)	22 (2.4)	4 (0.8)	5 (1.0)	23 (1.8)	28 (2.2)
New Jersey	5 (0.9)	48 (2.1)	19 (2.0)	5 (0.9)	4 (0.8)	18 (1.9)	22 (1.7)
New Mexico	10 (1.5)	56 (2.6)	15 (1.7)	3 (0.7)	6 (1.0)	10 (1.3)	17 (1.4)
New York	7 (1.2)	56 (2.2)	18 (2.1)	3 (0.7)	5 (0.9)	11 (1.6)	16 (1.7)
North Carolina	4 (0.8)	56 (2.0)	17 (1.7)	3 (0.7)	8 (1.2)	12 (1.2)	19 (1.5)
North Dakota	3 (0.8)	46 (2.3)	18 (2.0)	3 (0.9)	6 (1.1)	24 (2.0)	30 (2.0)
Ohio	2 (0.7)	56 (2.3)	16 (1.6)	3 (0.6)	5 (0.9)	19 (1.5)	24 (1.8)
Oklahoma	4 (0.9)	52 (2.4)	18 (1.8)	3 (0.8)	7 (1.3)	16 (1.7)	23 (1.8)
Pennsylvania	5 (0.6)	53 (2.4)	16 (1.6)	2 (0.6)	6 (1.1)	18 (1.7)	24 (1.7)
Rhode Island	7 (1.3)	52 (2.3)	16 (1.8)	4 (0.8)	6 (1.2)	16 (1.7)	22 (2.1)
South Carolina	3 (0.8)	60 (2.1)	17 (1.6)	3 (0.7)	5 (0.9)	12 (1.3)	17 (1.6)
Tennessee	5 (1.0)	53 (2.4)	16 (1.6)	3 (0.7)	7 (1.3)	16 (1.6)	23 (2.1)
Texas	5 (1.0)	58 (2.4)	16 (1.7)	4 (0.9)	5 (1.0)	12 (1.5)	17 (1.9)
Utah	7 (1.1)	51 (2.0)	17 (1.8)	3 (0.6)	8 (1.1)	15 (1.4)	23 (1.8)
Virginia	6 (1.1)	50 (2.2)	18 (1.5)	3 (0.7)	8 (1.0)	15 (1.7)	24 (1.6)
West Virginia	6 (1.1)	56 (2.4)	16 (1.9)	3 (0.7)	5 (0.9)	14 (1.4)	19 (1.7)
Wisconsin	4 (0.8)	47 (2.1)	21 (1.4)	3 (0.6)	8 (1.1)	17 (1.5)	25 (1.7)
Wyoming	4 (0.7)	52 (2.3)	13 (1.3)	5 (1.0)	6 (1.2)	19 (1.5)	25 (1.9)
TERRITORY							
Guam	10 (1.6)	67 (2.7)	14 (2.2)	2 (0.8)	4 (1.1)	3 (0.7)	7 (1.4)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 5.34 National Results for Demographic Subgroups for the Extended-Response Question "Laura Use Calculator"

Grade 4

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	17 (1.3)	44 (1.6)	9 (0.8)	10 (1.1)	13 (1.2)	7 (0.9)	20 (1.5)
Northeast	19 (2.7)	34 (3.7)	12 (2.9)	9 (2.5)	14 (2.0)	12 (3.0)	25 (3.9)
Southeast	20 (3.3)	48 (2.3)	9 (1.6)	8 (1.0)	10 (2.2)	5 (1.7)	15 (2.8)
Central	13 (2.2)	47 (4.5)	6 (1.1)	11 (1.8)	17 (3.5)	6 (1.3)	23 (3.4)
West	18 (2.0)	44 (1.9)	9 (1.2)	12 (2.8)	12 (1.7)	6 (1.6)	18 (2.3)
White	15 (1.4)	41 (2.1)	10 (1.1)	10 (1.3)	16 (1.8)	9 (1.3)	24 (2.2)
Black	28 (3.1)	50 (4.2)	6 (1.3)	12 (2.7)	4 (1.7)	1 (0.5)	5 (1.8)
Hispanic	20 (2.7)	56 (2.5)	6 (1.3)	7 (1.8)	8 (1.6)	3 (1.1)	11 (2.2)
Male	19 (2.0)	42 (1.8)	9 (1.0)	8 (1.1)	13 (1.6)	8 (1.3)	22 (1.8)
Female	15 (1.4)	46 (2.2)	9 (1.1)	12 (1.6)	13 (1.5)	5 (1.1)	18 (2.0)
Advantaged Urban	12 (2.1)	34 (4.3)	10 (2.5)	12 (2.7)	21 (3.0)	11 (2.7)	32 (4.8)
Disadvantaged Urban	32 (3.5)	50 (3.3)	6 (2.1)	8 (2.6)	4 (1.5)	0 (0.0)	4 (1.5)
Extreme Rural	22 (4.9)	42 (8.0)	11 (2.2)	6 (1.5)	16 (6.7)	3 (1.9)	20 (6.3)
Other	15 (1.3)	45 (1.5)	9 (0.9)	11 (1.5)	12 (1.3)	8 (1.1)	20 (1.7)
Public	18 (1.4)	45 (1.7)	9 (1.0)	10 (1.3)	12 (1.4)	6 (1.0)	19 (1.6)
Catholic and Other Private	14 (1.5)	38 (2.7)	9 (1.3)	10 (1.6)	18 (2.6)	10 (1.4)	28 (2.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 5.35 | Percentages for Responses to Extended-Response Question, "Laura Use Calculator"

PUBLIC SCHOOLS	Grade 4 - 1992						
	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
NATION	17 (1.4)	45 (1.7)	9 (1.0)	10 (1.3)	13 (1.4)	6 (1.0)	19 (1.6)
Northeast	20 (3.0)	34 (4.0)	12 (3.2)	9 (3.1)	13 (2.2)	11 (3.2)	24 (4.3)
Southeast	20 (3.9)	49 (2.5)	10 (1.9)	8 (1.1)	9 (2.6)	4 (1.8)	13 (3.4)
Central	13 (2.4)	48 (4.6)	5 (1.3)	10 (2.3)	18 (4.1)	5 (1.5)	23 (3.7)
West	18 (2.1)	45 (1.9)	9 (1.4)	12 (3.0)	10 (1.9)	6 (1.8)	16 (2.2)
STATES							
Alabama	13 (1.6)	53 (2.2)	8 (1.2)	10 (1.2)	12 (1.7)	4 (0.9)	16 (1.9)
Arizona	14 (1.7)	56 (2.1)	8 (1.1)	7 (1.0)	10 (1.2)	5 (1.0)	15 (1.2)
Arkansas	13 (1.6)	58 (2.1)	12 (1.3)	7 (1.1)	7 (1.3)	2 (0.7)	10 (1.3)
California	20 (2.1)	49 (2.3)	7 (1.3)	7 (1.0)	12 (1.5)	6 (1.3)	18 (1.8)
Colorado	16 (1.6)	44 (2.1)	8 (1.1)	9 (1.1)	14 (1.5)	9 (1.4)	23 (1.7)
Connecticut	11 (1.5)	41 (2.3)	9 (1.4)	8 (1.1)	20 (1.8)	11 (1.3)	30 (2.4)
Delaware	18 (1.4)	43 (2.4)	10 (1.1)	9 (1.3)	13 (1.5)	8 (1.1)	20 (1.6)
Dist. Columbia	25 (1.8)	55 (2.3)	8 (1.5)	4 (0.9)	6 (0.9)	3 (0.5)	9 (1.0)
Florida	15 (1.4)	53 (2.1)	9 (1.0)	8 (1.3)	11 (1.3)	5 (0.9)	16 (1.6)
Georgia	16 (1.5)	52 (1.9)	9 (1.0)	8 (1.1)	10 (1.2)	5 (0.8)	16 (1.5)
Hawaii	16 (1.9)	44 (2.4)	14 (1.5)	7 (1.0)	12 (1.6)	7 (1.1)	20 (1.9)
Idaho	17 (1.5)	41 (2.0)	8 (1.1)	9 (1.3)	17 (1.7)	8 (1.1)	25 (1.9)
Indiana	13 (1.3)	48 (1.8)	9 (1.2)	10 (1.0)	15 (1.5)	6 (0.9)	21 (1.7)
Iowa	9 (1.3)	44 (2.4)	11 (1.5)	8 (1.2)	18 (1.7)	10 (1.1)	28 (2.2)
Kentucky	10 (1.2)	54 (2.2)	10 (1.4)	8 (1.2)	12 (1.4)	6 (0.8)	18 (1.7)
Louisiana	21 (2.2)	55 (2.7)	6 (1.1)	9 (1.1)	5 (1.1)	4 (1.1)	9 (1.5)
Maine	14 (1.9)	37 (3.0)	7 (1.4)	11 (1.7)	18 (2.4)	13 (1.9)	31 (2.9)
Maryland	17 (1.9)	45 (2.0)	9 (1.3)	7 (0.9)	14 (1.3)	8 (1.2)	23 (1.8)
Massachusetts	15 (1.6)	42 (2.8)	7 (1.1)	8 (1.4)	17 (1.8)	10 (1.5)	27 (2.5)
Michigan	13 (1.6)	50 (2.2)	8 (1.1)	8 (1.2)	13 (1.7)	9 (1.4)	22 (2.3)
Minnesota	12 (1.6)	46 (2.4)	8 (1.4)	8 (1.4)	15 (1.5)	11 (1.4)	26 (2.3)
Mississippi	16 (1.6)	59 (2.0)	9 (1.3)	6 (0.8)	8 (1.3)	2 (0.6)	10 (1.3)
Missouri	15 (1.5)	45 (2.2)	10 (1.2)	7 (1.2)	14 (1.5)	9 (1.5)	23 (2.0)
Nebraska	15 (2.1)	44 (2.0)	11 (1.4)	7 (1.0)	15 (1.8)	8 (1.3)	23 (1.9)
New Hampshire	13 (1.1)	38 (2.2)	9 (1.3)	11 (1.5)	19 (2.0)	10 (1.1)	29 (2.0)
New Jersey	13 (1.5)	41 (2.1)	11 (1.4)	8 (1.2)	16 (1.7)	11 (1.5)	27 (2.0)
New Mexico	16 (2.0)	52 (3.2)	6 (1.2)	8 (1.0)	11 (1.2)	7 (2.2)	18 (2.7)
New York	15 (2.0)	53 (2.3)	5 (1.0)	7 (1.1)	14 (1.4)	6 (1.1)	20 (1.8)
North Carolina	18 (2.0)	48 (2.0)	10 (1.3)	8 (1.0)	11 (1.4)	5 (1.0)	16 (1.7)
North Dakota	9 (1.2)	46 (2.5)	12 (1.9)	9 (1.3)	15 (1.4)	9 (1.1)	24 (1.7)
Ohio	11 (1.3)	50 (2.0)	8 (1.1)	8 (1.1)	14 (1.3)	8 (1.2)	23 (1.5)
Oklahoma	11 (1.5)	52 (2.0)	9 (1.2)	8 (1.3)	15 (1.8)	5 (1.0)	21 (1.8)
Pennsylvania	11 (1.4)	46 (1.9)	12 (1.5)	8 (1.1)	15 (1.3)	8 (1.1)	23 (1.6)
Rhode Island	16 (1.9)	43 (2.3)	13 (1.8)	9 (1.3)	14 (1.5)	5 (0.9)	18 (1.7)
South Carolina	13 (1.4)	59 (1.8)	6 (0.9)	9 (1.1)	9 (1.2)	5 (1.1)	13 (1.4)
Tennessee	12 (1.5)	54 (2.2)	9 (1.3)	9 (1.4)	12 (1.8)	4 (0.9)	16 (2.2)
Texas	13 (1.5)	47 (2.5)	11 (1.3)	8 (1.1)	14 (1.4)	8 (1.2)	21 (2.0)
Utah	14 (1.6)	49 (2.3)	8 (1.1)	8 (1.2)	14 (1.6)	6 (1.1)	21 (1.7)
Virginia	16 (1.5)	45 (2.3)	9 (1.4)	7 (1.2)	13 (1.3)	10 (1.4)	23 (1.9)
West Virginia	14 (1.6)	51 (2.6)	9 (1.2)	9 (1.3)	12 (1.4)	5 (1.1)	17 (1.7)
Wisconsin	12 (1.2)	39 (2.0)	11 (1.1)	10 (1.2)	16 (1.8)	13 (2.0)	29 (2.2)
Wyoming	12 (1.4)	46 (2.1)	9 (1.2)	3 (1.3)	15 (1.6)	9 (1.4)	24 (1.9)
TERRITORY							
Guam	19 (2.3)	60 (2.8)	8 (1.4)	5 (0.9)	6 (1.3)	2 (0.6)	8 (1.5)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.36 National Results for Demographic Subgroups for the Extended-Response Question, "Graphs of Pockets"

Grade 4

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	6 (0.7)	46 (1.4)	23 (1.2)	15 (0.8)	7 (0.7)	3 (0.6)	10 (0.9)
Northeast	6 (1.5)	42 (3.7)	27 (2.7)	13 (2.2)	10 (2.1)	2 (0.8)	12 (2.5)
Southeast	6 (1.4)	52 (2.9)	19 (1.8)	14 (1.3)	5 (1.4)	4 (1.4)	9 (2.3)
Central	6 (1.6)	46 (3.1)	22 (3.1)	18 (1.7)	5 (1.2)	4 (1.2)	9 (1.7)
West	6 (1.2)	45 (2.2)	24 (1.8)	15 (1.4)	8 (1.3)	2 (1.0)	10 (1.2)
White	5 (0.8)	42 (1.7)	24 (1.5)	17 (1.1)	9 (1.0)	4 (0.8)	13 (1.3)
Black	6 (1.5)	67 (2.5)	19 (2.1)	7 (1.7)	0 (0.3)	1 (0.2)	1 (0.4)
Hispanic	13 (2.8)	50 (3.4)	23 (3.6)	11 (1.9)	2 (0.9)	0 (0.3)	2 (1.0)
Male	6 (1.0)	47 (2.1)	23 (1.6)	12 (1.2)	7 (1.2)	4 (0.9)	11 (1.5)
Female	5 (0.8)	45 (2.1)	22 (1.8)	18 (1.4)	7 (1.2)	2 (0.6)	9 (1.2)
Advantaged Urban	3 (0.9)	41 (3.5)	22 (2.0)	18 (3.0)	11 (2.7)	5 (1.7)	16 (3.4)
Disadvantaged Urban	9 (2.0)	58 (4.1)	20 (3.0)	10 (2.1)	2 (0.8)	1 (0.5)	2 (0.9)
Extreme Rural	7 (2.6)	46 (5.9)	23 (3.3)	14 (2.4)	8 (1.8)	2 (1.0)	10 (2.3)
Other	6 (0.8)	46 (2.0)	23 (1.6)	15 (1.1)	7 (1.0)	3 (0.7)	10 (1.2)
Public	6 (0.8)	46 (1.6)	23 (1.3)	15 (0.9)	7 (0.8)	3 (0.6)	10 (1.0)
Catholic and Other Private	4 (1.1)	48 (2.4)	20 (1.9)	16 (2.0)	7 (1.5)	4 (1.6)	12 (2.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 5.37 | Percentages for Responses to Extended-Response Question, "Graphs of Pockets"

PUBLIC SCHOOLS	Grade 4 - 1992						
	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
NATION	6 (0.8)	46 (1.6)	23 (1.3)	15 (0.9)	7 (0.8)	3 (0.6)	10 (1.0)
Northeast	7 (1.6)	39 (4.0)	29 (2.9)	12 (2.3)	11 (2.1)	2 (0.9)	12 (2.5)
Southeast	6 (1.8)	53 (3.6)	18 (2.1)	14 (1.5)	4 (1.4)	4 (1.4)	8 (2.4)
Central	6 (1.8)	45 (3.7)	22 (3.4)	18 (2.0)	5 (1.4)	4 (1.5)	8 (2.1)
West	6 (1.3)	46 (2.6)	24 (1.9)	14 (1.5)	8 (1.4)	2 (1.1)	10 (1.4)
STATES							
Alabama	3 (0.6)	56 (2.1)	21 (2.0)	15 (1.6)	4 (0.7)	1 (0.4)	5 (0.9)
Arizona	5 (1.0)	52 (1.8)	20 (1.5)	16 (1.4)	5 (0.9)	2 (0.6)	7 (1.0)
Arkansas	2 (0.7)	57 (2.2)	19 (1.9)	15 (1.4)	5 (1.0)	2 (0.7)	7 (1.1)
California	5 (1.1)	53 (2.5)	20 (1.5)	15 (1.9)	4 (1.1)	2 (0.6)	6 (1.2)
Colorado	3 (0.7)	44 (2.0)	27 (1.5)	18 (1.4)	6 (1.1)	2 (0.5)	8 (1.2)
Connecticut	4 (0.9)	43 (2.6)	24 (1.8)	17 (1.4)	8 (1.1)	5 (1.0)	12 (1.6)
Delaware	4 (0.9)	53 (2.5)	21 (2.3)	16 (1.7)	5 (1.1)	1 (0.7)	7 (1.1)
Dist. Columbia	7 (1.1)	62 (2.0)	21 (1.8)	6 (1.2)	2 (0.7)	1 (0.4)	3 (0.8)
Florida	5 (1.0)	52 (2.0)	21 (1.8)	16 (1.4)	4 (1.0)	2 (0.5)	6 (1.2)
Georgia	2 (0.5)	50 (2.6)	22 (2.0)	19 (1.8)	4 (0.9)	3 (0.9)	8 (1.2)
Hawaii	5 (0.8)	56 (2.3)	17 (1.7)	15 (1.7)	5 (1.0)	2 (0.6)	7 (1.1)
Idaho	4 (0.6)	44 (2.2)	24 (1.6)	21 (1.9)	5 (0.9)	2 (0.7)	7 (1.0)
Indiana	1 (0.4)	53 (2.3)	23 (1.8)	17 (1.8)	4 (1.1)	2 (0.6)	6 (1.1)
Iowa	3 (0.7)	42 (2.0)	25 (1.7)	17 (1.6)	8 (1.1)	4 (0.8)	12 (1.3)
Kentucky	3 (0.7)	56 (2.4)	20 (1.8)	15 (1.7)	5 (1.1)	1 (0.5)	6 (1.2)
Louisiana	5 (0.9)	57 (2.5)	18 (1.8)	15 (1.7)	3 (0.7)	2 (0.5)	5 (0.8)
Maine	3 (0.7)	38 (1.9)	26 (2.2)	21 (2.1)	8 (1.3)	4 (0.9)	13 (1.6)
Maryland	5 (1.0)	50 (2.2)	19 (1.5)	17 (1.6)	6 (1.0)	3 (0.6)	9 (1.2)
Massachusetts	5 (0.8)	43 (2.2)	24 (1.9)	18 (1.5)	7 (1.2)	3 (0.9)	10 (1.6)
Michigan	1 (0.4)	51 (2.0)	20 (1.6)	18 (1.5)	7 (1.1)	3 (0.6)	10 (1.2)
Minnesota	3 (0.7)	42 (1.8)	22 (1.5)	22 (1.8)	7 (1.2)	4 (0.8)	11 (1.4)
Mississippi	4 (0.8)	60 (2.3)	20 (1.8)	12 (1.3)	3 (0.7)	1 (0.4)	4 (0.8)
Missouri	1 (0.5)	47 (2.2)	25 (1.6)	18 (1.7)	6 (1.1)	3 (0.7)	9 (1.3)
Nebraska	5 (1.0)	42 (2.3)	24 (1.7)	20 (1.9)	6 (1.2)	3 (0.9)	9 (1.1)
New Hampshire	3 (0.8)	46 (2.6)	23 (1.9)	19 (2.0)	6 (1.4)	3 (0.7)	9 (1.5)
New Jersey	3 (0.8)	47 (2.4)	23 (1.9)	18 (2.0)	7 (1.2)	3 (0.8)	10 (1.5)
New Mexico	2 (0.6)	59 (2.2)	21 (1.7)	14 (1.9)	4 (0.9)	1 (0.3)	4 (1.0)
New York	4 (1.3)	49 (2.4)	22 (1.8)	16 (1.6)	5 (1.2)	4 (1.0)	9 (1.5)
North Carolina	3 (0.6)	52 (2.2)	24 (1.5)	15 (1.5)	3 (0.6)	3 (0.6)	6 (0.9)
North Dakota	4 (1.1)	44 (2.6)	22 (1.8)	20 (1.9)	6 (1.0)	5 (1.0)	10 (1.1)
Ohio	4 (0.9)	51 (2.4)	20 (1.5)	15 (1.6)	6 (1.0)	4 (0.9)	9 (1.4)
Oklahoma	2 (0.7)	46 (2.2)	27 (1.8)	18 (1.8)	3 (0.9)	3 (0.7)	7 (1.0)
Pennsylvania	4 (0.8)	49 (2.1)	22 (2.0)	15 (1.6)	6 (1.2)	5 (0.9)	11 (1.7)
Rhode Island	6 (1.1)	52 (2.3)	22 (1.9)	14 (1.6)	5 (1.1)	2 (0.7)	7 (1.4)
South Carolina	2 (0.5)	52 (2.4)	23 (1.9)	18 (1.7)	3 (0.6)	2 (0.4)	6 (0.8)
Tennessee	3 (0.7)	55 (2.2)	20 (1.7)	16 (1.5)	4 (0.9)	2 (0.6)	6 (1.1)
Texas	3 (0.8)	47 (2.6)	19 (1.8)	20 (1.5)	8 (1.2)	4 (1.2)	11 (1.5)
Utah	3 (0.8)	47 (2.1)	27 (1.6)	17 (1.2)	4 (0.7)	3 (0.8)	6 (1.0)
Virginia	3 (0.4)	50 (2.1)	21 (1.4)	18 (1.6)	6 (1.1)	2 (0.6)	8 (1.6)
West Virginia	3 (0.6)	57 (2.0)	20 (1.7)	15 (1.6)	3 (0.8)	2 (0.7)	5 (1.0)
Wisconsin	3 (0.7)	48 (2.5)	20 (1.9)	18 (1.6)	8 (1.1)	3 (0.8)	11 (1.3)
Wyoming	4 (0.8)	47 (2.2)	23 (2.2)	15 (1.6)	8 (1.1)	3 (0.7)	11 (1.2)
TERRITORY							
Guam	6 (1.1)	66 (2.0)	15 (1.5)	10 (1.5)	2 (0.5)	2 (0.6)	3 (0.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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Grade 8 Question: Treena's Budget

The Task

This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation. Your answer should be clear enough so that another person could read it and understand your thinking. It is important that you show all your work.

Treena won a 7-day scholarship worth $1,000 to the Pro Shot Basketball Camp. Round-trip travel expenses to the camp are $335 by air or $125 by train. At the camp she must choose between a week of individual instruction at $60 per day or a week of group instruction at $40 per day. Treena's food and other expenses are fixed at $45 per day. If she does not plan to spend any money other than the scholarship, what are all choices of travel and instruction plans that she could afford to make? Explain your reasoning.

Did you use the calculator on this question?

Yes No

Possible Solution

The solution to this task requires students to use everyday consumer sense to determine Treena's fixed expenses and analyze the various choices she has for travel (plane or train) and instruction (individual or group). Students also must compare the total cost for **each** of the four alternatives to which this analysis leads to the $1,000 value of Treena's scholarship, in order to conclude which choices meet the given conditions.

Treena's fixed expenses will be $45 x 7 = $315 for the seven days. Therefore, she has $1,000 – $315 = $685 to spend on travel and instruction. Travel costs are either train ($125) or plane ($335). Instruction costs are either group ($40 x 7 = $280), or individual ($60 x 7 = $420).

The four choices Treena has are:

Travel by train, group instruction, and fixed expenses: $125 + $280 + $315 = $720

Travel by plane, group instruction, and fixed expenses: $335 + $280 + $315 = $930

Possible Solution (continued)

Travel by train, individual instruction, and fixed expenses: $125 + $420 + $315 = $860

Travel by plane, individual instruction, and fixed expenses: $335 + $420 + $315 = $1,070

Students must realize that Treena cannot choose the individual plan and travel by plane because the total expenses ($1,070) would be greater than the allotted scholarship. Any full credit response must clearly communicate that Treena has three options that do not exceed $1,000, what the three options are, and how the student arrived at the three options.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
22 (1.2)	**0**	**No Response**
37 (1.6)	**1**	**Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

This INCORRECT response appears to be somewhat on task but the work shown does not warrant credit even at the minimal level.

Add everything other
then scholarship and
you will get 230.

---

* The standard errors of the estimated percentages appear in parentheses.

National Percent for Each Category

Rating and Performance Category

22 (1.2)

2 **Minimal -- a) Student indicates one or more options only (such as group and train) with no supporting evidence, or b) Student work contains major mathematical errors and/or flaws in reasoning (for example, the student does not consider Treena's fixed expenses).**

This MINIMAL response does illustrate one valid budget option, but does not show any supporting calculations.

She could take the train
to camp have individual
instruction and eat everyday
and not run out of money.

15 (1.0)

3 **Partial -- The student a) indicates one or more correct options; additional supporting work beyond the minimal level must be present, but the work may contain some computational errors; or b) demonstrates correct mathematics for one or two options, but does not indicate the options that are supported by his or her mathematics.**

This PARTIAL response illustrates one acceptable budget alternative (group and train) and the corroborating computational work.

train at $125

$$\begin{array}{r} 40 \\ \times 7 \\ \hline 280 \end{array} \qquad \begin{array}{r} 125 \\ 280 \\ 315 \\ \hline 720 \end{array} \qquad \text{group at} \quad \begin{array}{r} 345 \\ \times 7 \\ \hline 315 \end{array}$$

$720 would she
all spend

She just took the
cheapest ones of her
choices
now she has
money left over

National Percent for Each Category	**Rating and Performance Category**	
2 (0.3)	4	**Satisfactory -- The student a) shows correct mathematical evidence that Treena has three options, but the supporting work is incomplete; or b) shows correct mathematical evidence for any two of Treena's three options and the supporting work is clear and complete.**

This SATISFACTORY response illustrates two appropriate budget options (both individual and train and *group and plane) as well as the correct supporting calculations.*

125 + 420 + 315 = $860

$1000 > $860

If $1000 is more than $800 she has money left over so she could take private lessons, a train and her food.

335 + 315 + 280 = 930

$1000 > $930

She could take a plane, her food, and group lessons

National Percent for Each Category	**Rating and Performance Category**	
2 (0.4)	5	**Extended -- The correct solution indicates what the three possible options are and includes supporting work for each option.**

This outstanding EXTENDED response provides the correct calculations in terms of the excess dollars that remain from the $1,000 scholarship, for the three acceptable budget options.

~~1,000~~
~~- 335~~
~~665~~
~~-420~~
~~245~~
~~315~~

60
x 7
420

45
x 7
315

1. 1000
- 335
665
- 280
385
- 315
$ 70

40
x 7
280

2. 1,000
- 125
875
- 280
595
- 315
$280

1000
- 125
875
- 420
455
-315
140

1. take air, group, food
2. train, group, food
3. train, individual, food

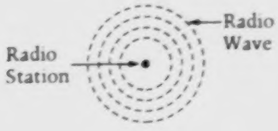
Grade 8 Question: Radio Stations

The Task

This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation. Your answer should be clear enough so that another person could read it and understand your thinking. It is important that you show all your work.

Radio station KMAT in Math City is 200 miles from radio station KGEO in Geometry City. Highway 7, a straight road, connects the two cities.

KMAT broadcasts can be received up to 150 miles in all directions from the station and KGEO broadcasts can be received up to 125 miles in all directions. Radio waves travel from each radio station through the air, as represented below.

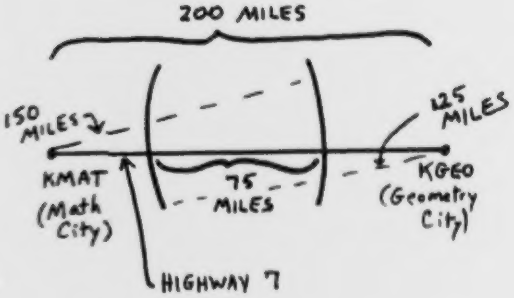


On the next page, draw a diagram that shows the following.

- Highway 7
- The location of the two radio stations
- The part of Highway 7 where both radio stations can be received

Be sure to label the distances along the highway and the length in miles of the part of the highway where both stations can be received.

Possible Solution



There is a 75-mile part of Highway 7 that is within both broadcast areas. It starts 75 miles outside Math City and ends 150 miles outside Math City.

Students need to assimilate and translate semantic information in order to draw a diagram that graphically depicts the location of the radio stations and Highway 7 accurately in terms of given boundary conditions. A graphical approach to this task should enable students to determine the length of the overlapping portion of Highway 7, along which both radio stations can be received. Any satisfactory response must clearly illustrate an overlapping region, whereas, in addition, any extended response must clearly identify the overlap and correctly determine its length to be 75 miles.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
16 (1.1)	0	No Response

---

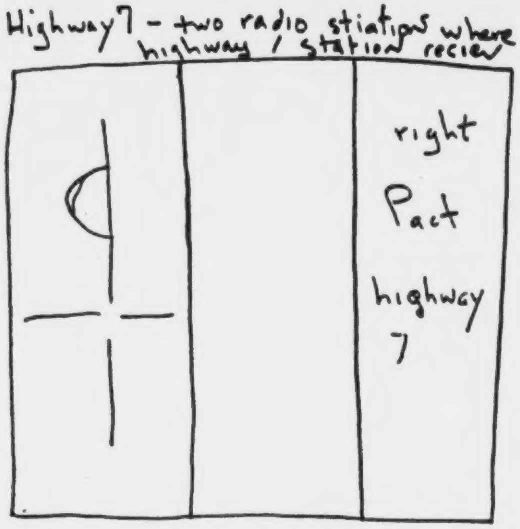
* The standard errors of the estimated percentages appear in parentheses.

National Percent for Each Category | **Rating and Performance Category**

45 (1.6)

1 **Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

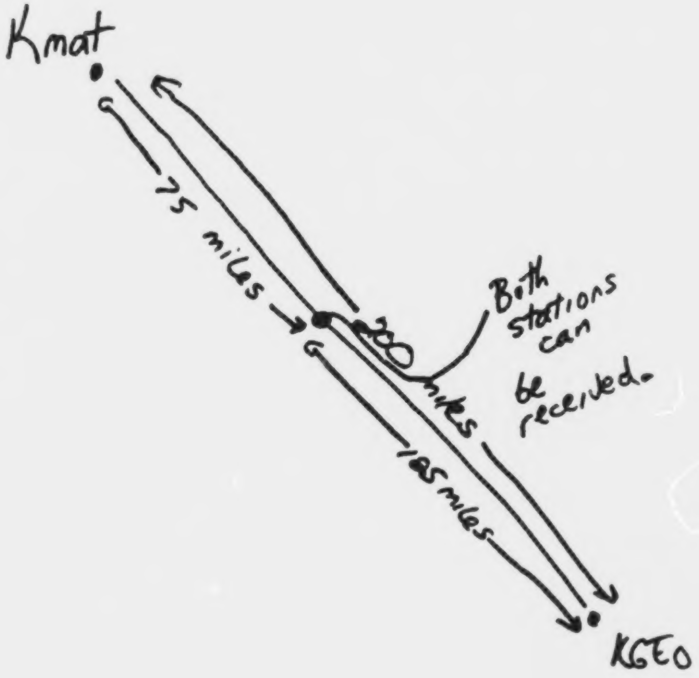
This INCORRECT response does not relate the information given in the problem in a manner that conveys either a meaningful problem solving approach or an adequate solution.


Highway7 - two radio stiatipns where
highway / station reciev
right
Pact
highway
7

22 (1.2)

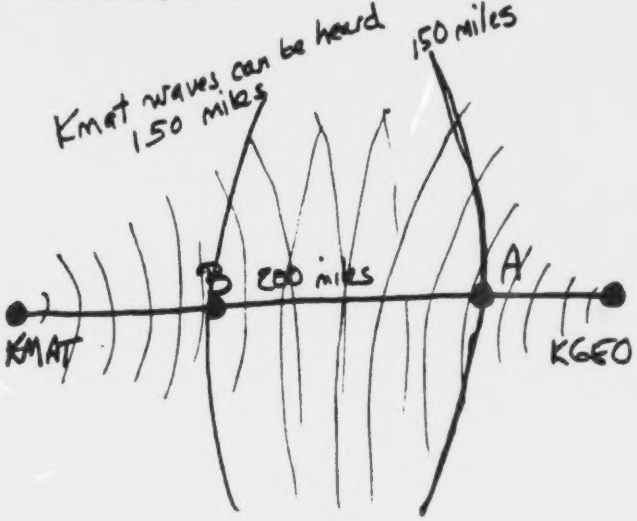
2 **Minimal -- Diagram with only cities, Highway 7, and 200 miles labeled; or a diagram that shows some, but not all, of the given distances: 125, 150, or 200 miles. Minimal responses do not recognize that the common broadcast area is a length along the highway.**

This MINIMAL response correctly depicts two pieces of information (radio stations KMAT and KGEO are 200 miles apart and station KGEO can broadcast 125 miles) and shows rudimentary understanding. It does not show the common broadcast area as a length along the highway.


Kmat
75 miles
200 miles
Both stations can be received.
125 miles
KGEO

National Percent for Each Category	Rating and Performance Category	
13 (0.9)	3	**Partial** -- Diagram with cities, Highway 7, and 200 miles labeled and identification of common broadcast area as a length along (or not on) the highway. Two or more of the radio wave distances 250, 125, and 75 are insufficiently labeled.

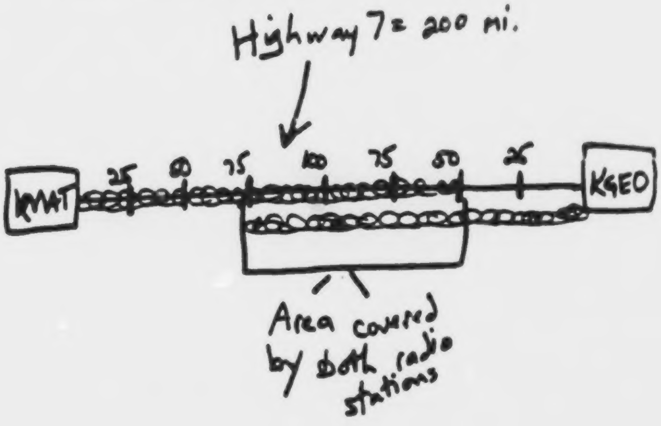
This is PARTIAL response indicates considerable understanding of the task relative to the given information. The diagram shows the radio stations to be 200 miles apart and that KMAT can broadcast 150 miles. Additionally, the diagram shows a part of the highway (from A to B) along which both radio stations can be heard. However, the response does not show the broadcast range of station KGEO and does not indicate the length of the common broadcast area.



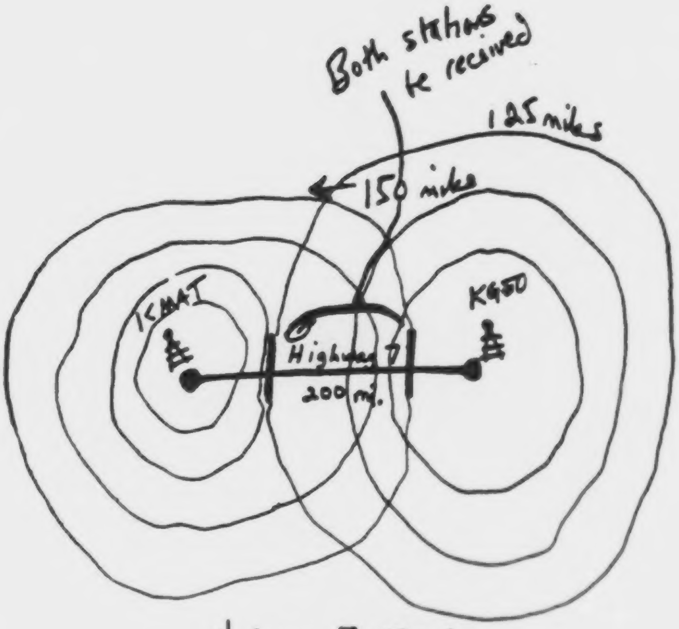
The can both be heard between A & B

National Percent for Each Category	Rating and Performance Category	
4 (0.5)	4	**Satisfactory** -- Diagram with cities, Highway 7, 200 miles, and all radio wave distances labeled and identification of common broadcast area on Highway 7 as a length. At the same time, omits or incorrectly computes length of the highway along which both radio stations can be received.

This SATISFACTORY diagram shows a good understanding of the problem. Although the student correctly labeled the common area along Highway 7 where the two stations could be heard, the length in miles of this region was not indicated.



National Percent for Each Category	**Rating and Performance Category**
1 (0.3)	**5** **Extended -- An accurate, well-labeled diagram (as described in the score 4 category) clearly indicating that the portion of Highway 7 along which both radio stations can be received is 75 miles in length.**
This is a solid EXTENDED response. The diagram is accurate and well labeled. Additionally, below the diagram a statement correctly concludes that the length of the part of Highway 7 along which both radio stations can be heard is 75 miles.	



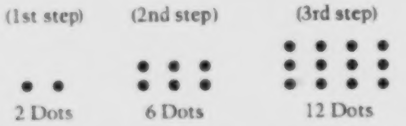
Highway 7 200 miles
KMAT 150 mile radius
Kg20 125 mile radius
Part of Highway 7 where both
radio stations can be
received 75

Grade 8 Question: Marcy's Dot Pattern

The Task

This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation. Your answer should be clear enough so that another person could read it and understand your thinking. It is important that you show all your work.

A pattern of dots is shown below. At each step, more dots are added to the pattern. The number of dots added at each step is more than the number added in the previous step. The pattern continues infinitely.



Marcy has to determine the number of dots in the 20th step, but she does not want to draw all 20 pictures and then count the dots.

Explain or show how she could do this and give the answer that Marcy should get for the number of dots.

Did you use the calculator on this question?

Yes No

Possible Solution

The explanation should include one of the following ideas with no false statements:

a) For each successive step, the number of rows and the number of columns is increasing by 1, forming a pattern. For example, the first step shows a pattern of dots that consists of one row by two columns, the second step shows a pattern of dots that consists of two rows by three columns, the third step three rows by four columns, and so on. Continuing in this pattern, the twentieth step would have 20 x 21, or 420, dots.

Possible Solution (continued)

b) Look at successive differences between consecutive steps. The differences 4, 6, 8, 10, ... form a pattern. There are 19 differences forming the pattern 4, 6, 8, 10, ... 38, 40, and this sum is equal to (9 x 44) + 22, or 418. However, 2 must be added for the first step, yielding a response of 420.

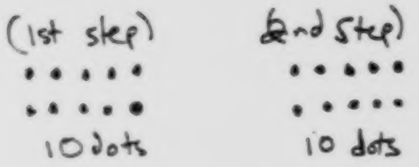
The solution to this task requires students to analyze several steps in a pattern of dots in order to conjecture about a general rule for determining the number of dots for any particular step in the pattern. Additionally, students are required to use their rule to find the number of dots at a particular step in an extension of the pattern where it no longer is convenient to draw all of the intermediate dot figures. One approach is to think of the steps in the pattern as consisting of dots in rows and columns and to realize that the number of dots in the nth step can be expressed as
$x_n = n(n+1)$ for $n = 1,2,3$ ... and thus
$x_{20} = 20(20+1) = (20)21 = 420$.

Other approaches are possible and students could use arithmetic or algebraic concepts to explain their reasoning. Although a few students did write an algebraic equation to express a rule for the general term in a recursive relationship, it was neither expected nor necessary for students to do so.

National Results, Scoring Guide, and Sample Responses

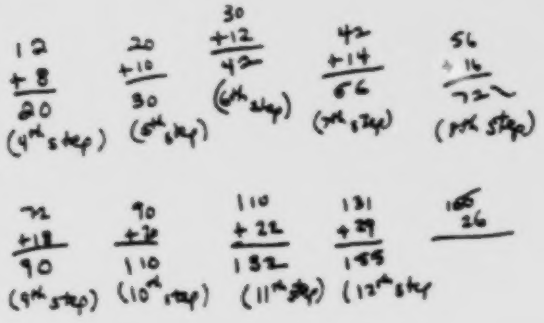
National Percent for Each Category*	**Rating and Performance Category**	
16 (1.0)	0	**No Response**
63 (1.3)	1	**Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

It is difficult to discern an explanation for this INCORRECT response. One possibility is that the student apportioned the total of 20 dots in the three steps shown into two 2 x 5 sets.


(1st step)
10 dots
2nd step)
10 dots

National Percent for Each Category	**Rating and Performance Category**	
10 (0.7)	2	**Minimal -- An attempt to generalize the pattern on a superficial level or to draw all 20 pictures in the pattern (with a clear understanding of the pattern).**

This MINIMAL response illustrates a student's attempt to display the first 12 steps in the pattern. There is some understanding of the number of total dots in each entry but no attempt is made to explain the pattern in terms of rows and columns.


12 +8 20 (4th step)
20 +10 30 (5th step)
30 +12 42 (6th step)
42 +14 56 (7th step)
56 +16 72 (8th step)
72 +18 90 (9th step)
90 +20 110 (10th step)
110 +22 132 (11th step)
131 +24 155 (12th step
155 26

---

* The standard errors of the estimated percentages appear in parentheses.

317

National Percent for Each Category*	**Rating and Performance Category**	
6 (0.7)	3	**Partial -- The response has communicated a partially correct generalization of the pattern.**

This PARTIAL response does begin to formulate an explanation of the total number of dots for an entry. However, the last sentence incorrectly uses the term "multiply" in an attempt to discuss the 20th step. At this point, the explanation falters.

When the pattern
starts with 2 dots
the next step is to
add 4 dots to it and
the 3rd step is to add 6
dots to it so every time
there is a new step you
add 2 dots to the
last amount you added
on to the last step.
You would multiply
two dots on and on until
you reached the 20th step

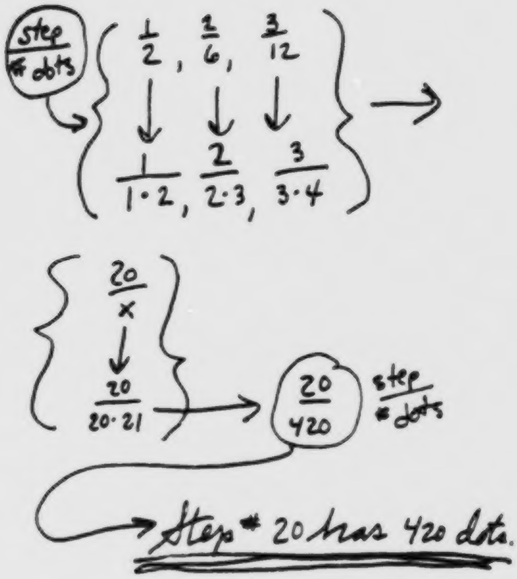
National Percent for Each Category	**Rating and Performance Category**	
1 (0.2)	4	**Satisfactory -- The response contains a completely correct generalization of the pattern but does not include -- or incorrectly states -- the number of dots (420) in the 20th step.**

This SATISFACTORY response provides sufficient evidence of how to generate the various steps in the pattern by multiplying the number of rows times the number of columns. However, the student does not determine the number of dots in the 20th step.

Multiply each step by 1#
higher such as
1 = 1×2
2 = 2×3
3 = 3×4
4 = 4×5

National Percent for Each Category*	**Rating and Performance Category**	
5 (0.6)	**5**	**Extended -- This response contains a completely correct generalization of the pattern and specifies that there are 420 dots in the 20th step.**

This is a strong EXTENDED response. The student clearly related the number of dots in a step to an appropriate multiplication rule. This student then moves directly from step three to step 20 and determines the correct number of dots for that step.



step / # dots
1/2, 2/6, 3/12
1/1·2, 2/2·3, 3/3·4
20/x
20/20·21
20/420
step / # dots
Step # 20 has 420 dots.

TABLE 5.38 National Results for Demographic Subgroups for the Extended-Response Task, "Treena's Budget"

Grade 8

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	22 (1.2)	37 (1.6)	22 (1.2)	15 (1.0)	2 (0.3)	2 (0.4)	4 (0.5)
Northeast	23 (3.0)	37 (3.7)	21 (2.7)	14 (2.0)	2 (0.4)	2 (1.0)	4 (1.0)
Southeast	23 (1.9)	43 (3.0)	22 (2.3)	10 (1.7)	2 (0.6)	1 (0.5)	3 (0.8)
Central	17 (2.0)	34 (3.9)	25 (2.6)	18 (1.6)	4 (0.8)	2 (1.2)	6 (1.1)
West	26 (2.9)	34 (2.3)	21 (2.2)	17 (2.5)	2 (0.7)	1 (0.7)	3 (0.9)
White	18 (1.5)	34 (2.1)	25 (1.6)	18 (1.2)	3 (0.4)	2 (0.6)	5 (0.6)
Black	30 (2.9)	50 (3.4)	13 (2.1)	7 (1.7)	0 (0.5)	0 (0.0)	0 (0.5)
Hispanic	36 (3.3)	40 (3.0)	19 (2.7)	5 (1.3)	1 (0.4)	0 (0.4)	1 (0.6)
Male	28 (1.8)	38 (2.1)	19 (1.5)	12 (1.1)	1 (0.4)	1 (0.4)	2 (0.5)
Female	16 (1.8)	36 (1.9)	26 (1.7)	17 (1.8)	3 (0.6)	3 (0.8)	6 (0.8)
Advantaged Urban	10 (3.2)	33 (3.4)	35 (3.4)	15 (3.0)	3 (1.3)	4 (1.6)	7 (2.7)
Disadvantaged Urban	42 (3.3)	39 (4.1)	10 (2.5)	8 (2.1)	2 (1.1)	0 (0.0)	2 (1.1)
Extreme Rural	24 (5.3)	30 (5.1)	23 (3.9)	19 (4.1)	2 (1.3)	3 (1.7)	4 (1.8)
Other	21 (1.4)	38 (2.0)	22 (1.5)	15 (1.4)	2 (0.5)	2 (0.5)	4 (0.6)
Public	23 (1.4)	37 (1.8)	21 (1.3)	14 (1.1)	2 (0.4)	2 (0.5)	4 (0.5)
Catholic and Other Private	14 (2.3)	35 (2.7)	30 (2.4)	16 (2.2)	2 (0.8)	2 (0.7)	4 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 5.39 | Percentages for Responses to Extended-Response Question, "Treena's Budget"

PUBLIC SCHOOLS	Grade 8 - 1992						
	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
NATION	23 (1.4)	37 (1.8)	21 (1.3)	14 (1.1)	2 (0.4)	2 (0.5)	4 (0.5)
Northeast	23 (3.8)	40 (4.5)	19 (2.7)	13 (2.7)	2 (0.3)	3 (1.3)	5 (1.3)
Southeast	24 (2.2)	43 (3.7)	20 (2.5)	10 (1.8)	2 (0.7)	1 (0.5)	3 (0.9)
Central	18 (2.2)	34 (4.2)	25 (2.9)	18 (1.6)	4 (0.9)	2 (1.3)	6 (1.2)
West	27 (3.1)	34 (2.4)	20 (2.4)	17 (2.5)	2 (0.7)	1 (0.7)	3 (1.0)
STATES							
Alabama	26 (2.2)	40 (2.1)	20 (1.6)	12 (1.6)	2 (0.6)	0 (0.3)	2 (0.7)
Arizona	23 (2.0)	35 (2.0)	23 (1.9)	16 (1.8)	3 (0.8)	1 (0.3)	4 (0.9)
Arkansas	24 (2.0)	38 (1.8)	25 (1.9)	11 (1.2)	2 (0.6)	0 (0.2)	2 (0.6)
California	27 (2.2)	36 (2.5)	22 (1.7)	12 (1.7)	2 (0.8)	0 (0.3)	3 (0.8)
Colorado	18 (1.4)	33 (2.0)	24 (1.8)	19 (1.7)	4 (0.6)	3 (0.8)	7 (0.9)
Connecticut	21 (1.9)	29 (2.3)	23 (1.8)	20 (1.9)	4 (0.9)	3 (0.7)	7 (1.0)
Delaware	24 (2.5)	31 (2.4)	23 (2.0)	17 (1.9)	4 (1.2)	1 (0.4)	4 (1.4)
Dist. Columbia	41 (2.4)	38 (2.4)	14 (1.9)	5 (1.2)	0 (0.4)	1 (0.6)	1 (0.7)
Florida	24 (2.2)	37 (2.3)	24 (2.4)	12 (1.5)	2 (0.6)	2 (0.7)	4 (0.9)
Georgia	24 (1.8)	36 (2.0)	25 (1.9)	13 (1.5)	2 (0.5)	0 (0.2)	2 (0.6)
Hawaii	34 (2.0)	36 (2.0)	16 (1.8)	13 (1.4)	1 (0.4)	0 (0.3)	1 (0.5)
Idaho	19 (1.5)	37 (1.9)	23 (1.7)	17 (2.0)	3 (0.7)	1 (0.4)	4 (0.7)
Indiana	17 (1.8)	35 (2.0)	27 (2.2)	18 (2.1)	2 (0.7)	1 (0.4)	3 (0.8)
Iowa	11 (1.1)	29 (2.2)	30 (2.1)	22 (1.9)	4 (0.7)	4 (0.8)	8 (1.1)
Kentucky	19 (1.6)	32 (1.8)	27 (1.8)	18 (1.4)	2 (0.7)	1 (0.4)	4 (0.9)
Louisiana	35 (2.3)	36 (2.0)	19 (1.9)	8 (1.2)	1 (0.4)	0 (0.2)	1 (0.5)
Maine	17 (1.8)	29 (2.0)	29 (2.3)	20 (1.6)	3 (0.9)	2 (0.6)	5 (1.1)
Maryland	26 (2.3)	30 (2.3)	20 (1.8)	20 (1.9)	3 (0.8)	2 (0.5)	4 (0.9)
Massachusetts	21 (1.9)	31 (2.0)	26 (2.1)	17 (1.8)	3 (0.7)	2 (0.6)	5 (1.0)
Michigan	21 (1.7)	34 (2.3)	25 (1.8)	16 (1.8)	2 (0.7)	1 (0.5)	4 (0.9)
Minnesota	13 (1.5)	34 (2.1)	27 (2.7)	19 (1.7)	4 (0.9)	3 (0.9)	6 (1.4)
Mississippi	29 (2.2)	39 (1.9)	23 (1.9)	8 (1.1)	1 (0.4)	1 (0.3)	1 (0.5)
Missouri	20 (1.8)	37 (2.0)	23 (1.6)	16 (1.7)	2 (0.6)	2 (0.3)	4 (0.7)
Nebraska	17 (1.7)	30 (2.1)	29 (1.9)	20 (1.6)	4 (0.8)	1 (0.4)	5 (0.9)
New Hampshire	18 (1.3)	31 (2.1)	26 (1.7)	20 (2.1)	3 (0.7)	1 (0.5)	5 (0.8)
New Jersey	21 (2.2)	33 (3.1)	24 (2.0)	17 (1.6)	3 (0.9)	2 (0.7)	5 (1.3)
New Mexico	22 (1.7)	37 (2.0)	26 (2.0)	13 (1.4)	1 (0.5)	0 (0.1)	1 (0.5)
New York	23 (1.9)	36 (2.4)	21 (1.9)	15 (1.6)	2 (0.7)	2 (0.6)	4 (1.0)
North Carolina	24 (2.1)	35 (2.0)	25 (1.7)	14 (1.4)	2 (0.6)	1 (0.3)	3 (0.8)
North Dakota	14 (1.4)	32 (2.4)	29 (2.1)	19 (1.6)	4 (0.9)	2 (0.6)	6 (1.2)
Ohio	21 (1.9)	33 (1.6)	22 (2.0)	19 (1.9)	3 (0.9)	2 (0.6)	5 (1.0)
Oklahoma	16 (1.6)	37 (2.3)	28 (2.0)	16 (1.9)	2 (0.8)	1 (0.4)	3 (0.8)
Pennsylvania	19 (1.5)	35 (2.3)	23 (1.9)	20 (1.6)	2 (0.6)	1 (0.5)	3 (0.8)
Rhode Island	21 (3.2)	33 (2.5)	24 (2.2)	16 (2.2)	3 (0.9)	2 (0.8)	6 (1.1)
South Carolina	26 (1.9)	37 (2.4)	23 (2.0)	11 (1.4)	1 (0.4)	1 (0.5)	2 (0.5)
Tennessee	26 (2.1)	36 (2.1)	21 (1.9)	14 (1.6)	2 (0.6)	1 (0.4)	3 (0.7)
Texas	24 (1.9)	31 (2.4)	28 (2.0)	13 (1.6)	2 (0.6)	2 (0.8)	4 (1.0)
Utah	21 (1.5)	36 (2.0)	23 (1.6)	16 (1.3)	3 (0.6)	1 (0.3)	4 (0.8)
Virginia	18 (1.4)	33 (2.1)	25 (2.0)	19 (1.9)	2 (0.7)	2 (0.6)	4 (0.9)
West Virginia	22 (1.7)	38 (2.1)	25 (1.6)	13 (1.3)	2 (0.6)	0 (0.3)	2 (0.7)
Wisconsin	16 (2.3)	32 (2.3)	27 (2.6)	19 (2.4)	3 (0.9)	3 (0.7)	6 (1.0)
Wyoming	15 (1.5)	29 (2.0)	31 (2.1)	19 (1.9)	3 (0.7)	2 (0.7)	5 (0.9)
TERRITORIES							
Guam	49 (3.1)	33 (2.8)	12 (1.9)	5 (1.5)	0 (0.3)	0 (0.3)	1 (0.4)
Virgin Islands	61 (2.3)	27 (2.9)	10 (2.1)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.40 National Results for Demographic Subgroups for the Extended-Response Task, "Radio Stations"

Grade 8

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	16 (1.1)	45 (1.6)	22 (1.2)	13 (0.9)	4 (0.5)	1 (0.3)	5 (0.6)
Northeast	15 (1.7)	42 (3.5)	22 (2.0)	15 (2.5)	5 (1.2)	1 (0.4)	6 (1.1)
Southeast	18 (2.1)	50 (2.8)	17 (1.7)	12 (1.4)	3 (0.8)	0 (0.3)	3 (0.8)
Central	12 (2.2)	43 (2.0)	26 (2.8)	14 (2.4)	5 (1.3)	1 (0.2)	6 (1.3)
West	17 (2.5)	43 (3.5)	23 (2.5)	10 (1.2)	4 (1.1)	2 (0.9)	6 (1.4)
White	11 (1.2)	40 (2.0)	26 (1.6)	16 (1.2)	5 (0.8)	2 (0.4)	7 (0.9)
Black	32 (4.1)	55 (4.2)	8 (2.1)	4 (1.6)	1 (0.6)	0 (0.0)	1 (0.6)
Hispanic	26 (2.5)	58 (2.9)	11 (2.0)	4 (1.3)	1 (0.6)	0 (0.0)	1 (0.6)
Male	17 (1.2)	46 (2.1)	19 (1.8)	13 (1.3)	4 (0.7)	1 (0.3)	4 (0.8)
Female	14 (1.7)	43 (2.0)	24 (1.7)	12 (1.3)	4 (0.8)	2 (0.5)	6 (1.0)
Advantaged Urban	4 (1.7)	32 (3.2)	30 (3.3)	24 (3.1)	7 (1.8)	3 (1.0)	10 (1.5)
Disadvantaged Urban	38 (4.6)	49 (4.7)	7 (1.7)	4 (1.0)	2 (1.5)	0 (0.0)	2 (1.5)
Extreme Rural	15 (4.9)	39 (7.3)	30 (5.6)	14 (4.8)	2 (1.0)	0 (0.5)	2 (1.2)
Other	15 (1.5)	47 (2.2)	21 (1.4)	12 (0.9)	4 (0.7)	1 (0.4)	5 (0.8)
Public	17 (1.2)	45 (1.8)	21 (1.4)	12 (1.1)	4 (0.6)	1 (0.3)	5 (0.7)
Catholic and Other Private	8 (1.6)	42 (2.7)	25 (2.3)	18 (2.2)	6 (1.3)	1 (0.4)	7 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 5.41 | Percentages for Responses to Extended-Response Question, "Radio Stations"

PUBLIC SCHOOLS	Grade 8 - 1992						
	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
NATION	17 (1.2)	45 (1.8)	21 (1.4)	12 (1.1)	4 (0.6)	1 (0.3)	5 (0.7)
Northeast	17 (2.0)	40 (4.2)	22 (2.6)	16 (3.1)	4 (1.5)	1 (0.5)	5 (1.6)
Southeast	19 (2.4)	52 (2.7)	15 (1.8)	11 (1.4)	2 (0.7)	0 (0.3)	3 (0.7)
Central	14 (2.6)	43 (2.5)	25 (3.3)	13 (2.9)	4 (1.3)	1 (0.2)	5 (1.4)
West	17 (2.8)	44 (4.0)	23 (2.7)	9 (1.4)	4 (1.2)	3 (1.0)	7 (1.5)
STATES							
Alabama	22 (2.0)	53 (2.4)	14 (1.5)	8 (1.1)	2 (0.6)	1 (0.4)	3 (0.8)
Arizona	16 (1.7)	48 (2.3)	20 (1.8)	13 (1.6)	2 (0.7)	1 (0.4)	3 (0.9)
Arkansas	13 (1.8)	57 (2.6)	18 (1.8)	8 (1.2)	2 (0.6)	1 (0.3)	3 (0.7)
California	19 (1.7)	44 (2.3)	19 (2.1)	13 (2.1)	3 (0.9)	1 (0.5)	4 (1.1)
Colorado	11 (1.2)	43 (2.0)	23 (1.6)	16 (1.7)	5 (0.9)	2 (0.6)	7 (1.1)
Connecticut	10 (1.2)	44 (2.3)	23 (2.0)	16 (1.7)	6 (1.0)	2 (0.4)	7 (1.2)
Delaware	16 (2.0)	51 (2.4)	17 (1.5)	12 (1.8)	3 (0.9)	1 (0.5)	4 (1.0)
Dist. Columbia	30 (2.1)	57 (2.3)	8 (1.0)	3 (1.1)	1 (0.5)	1 (0.5)	2 (0.7)
Florida	22 (1.8)	46 (2.2)	19 (1.9)	10 (1.3)	3 (0.9)	1 (0.3)	4 (0.9)
Georgia	19 (1.7)	49 (2.1)	19 (1.6)	7 (1.1)	4 (0.9)	1 (0.5)	5 (0.9)
Hawaii	23 (1.8)	47 (2.3)	15 (1.6)	11 (1.3)	3 (0.8)	1 (0.4)	3 (0.8)
Idaho	11 (1.1)	46 (2.2)	21 (2.0)	15 (1.2)	5 (1.0)	2 (0.6)	7 (1.2)
Indiana	7 (1.1)	48 (2.6)	25 (2.1)	15 (1.9)	3 (0.7)	1 (0.6)	5 (1.0)
Iowa	6 (0.9)	35 (1.8)	28 (1.9)	21 (2.0)	6 (0.9)	4 (1.1)	10 (1.2)
Kentucky	13 (1.4)	52 (2.3)	22 (1.7)	10 (1.1)	2 (0.5)	1 (0.4)	3 (0.6)
Louisiana	24 (2.2)	54 (2.1)	15 (1.4)	6 (1.0)	1 (0.4)	0 (0.2)	1 (0.5)
Maine	7 (0.9)	46 (2.1)	21 (1.9)	18 (1.8)	6 (0.9)	2 (0.6)	8 (1.1)
Maryland	15 (1.7)	48 (2.1)	20 (1.8)	13 (1.6)	3 (0.9)	1 (0.5)	5 (1.1)
Massachusetts	12 (1.2)	45 (2.8)	22 (2.4)	14 (1.9)	5 (0.9)	2 (0.7)	7 (1.0)
Michigan	15 (1.6)	46 (1.9)	21 (1.9)	12 (1.1)	5 (0.9)	2 (0.6)	7 (1.1)
Minnesota	6 (1.1)	41 (2.3)	20 (1.9)	21 (2.4)	7 (1.0)	4 (1.0)	11 (1.6)
Mississippi	20 (1.9)	57 (2.2)	14 (1.7)	6 (1.2)	2 (0.6)	0 (0.2)	2 (0.6)
Missouri	10 (1.2)	47 (2.1)	23 (1.9)	12 (1.6)	5 (0.9)	2 (0.7)	8 (1.2)
Nebraska	6 (1.4)	44 (2.8)	23 (2.0)	20 (3.0)	6 (1.0)	1 (0.6)	7 (1.1)
New Hampshire	8 (1.1)	42 (2.1)	24 (1.8)	18 (1.5)	5 (1.0)	3 (0.9)	8 (1.3)
New Jersey	12 (1.6)	46 (2.3)	22 (2.0)	14 (1.8)	5 (0.9)	1 (0.5)	6 (1.0)
New Mexico	17 (1.7)	51 (2.2)	19 (1.6)	11 (1.4)	3 (0.7)	1 (0.3)	3 (0.8)
New York	15 (2.1)	44 (2.4)	22 (1.6)	11 (1.5)	5 (0.9)	2 (0.7)	7 (1.2)
North Carolina	12 (1.4)	54 (2.2)	21 (1.8)	10 (1.5)	2 (0.5)	1 (0.4)	3 (0.7)
North Dakota	6 (1.2)	43 (2.5)	25 (2.0)	18 (1.8)	5 (0.9)	3 (1.2)	8 (1.5)
Ohio	12 (1.3)	47 (2.1)	25 (2.1)	12 (1.8)	5 (1.0)	0 (0.2)	5 (1.0)
Oklahoma	10 (1.4)	46 (2.0)	23 (1.6)	16 (1.7)	3 (0.8)	2 (0.8)	5 (1.1)
Pennsylvania	12 (1.2)	44 (2.1)	22 (1.7)	14 (1.4)	6 (1.1)	3 (0.7)	8 (1.5)
Rhode Island	10 (1.1)	49 (3.5)	25 (2.9)	12 (1.6)	2 (0.8)	2 (0.6)	5 (1.0)
South Carolina	12 (1.4)	55 (2.1)	21 (1.7)	10 (1.2)	2 (0.6)	1 (0.4)	3 (0.6)
Tennessee	16 (1.5)	51 (2.4)	22 (1.7)	10 (1.6)	1 (0.5)	0 (0.2)	2 (0.6)
Texas	16 (1.9)	45 (2.2)	21 (1.5)	12 (1.4)	3 (0.7)	3 (1.1)	5 (1.3)
Utah	10 (1.4)	46 (2.5)	20 (1.7)	16 (1.5)	7 (1.2)	2 (0.4)	8 (1.3)
Virginia	13 (1.5)	48 (2.5)	22 (1.7)	12 (1.4)	4 (0.8)	1 (0.5)	5 (1.0)
West Virginia	13 (1.5)	53 (2.4)	21 (1.7)	10 (1.2)	3 (0.6)	0 (0.3)	3 (0.6)
Wisconsin	9 (1.9)	43 (1.8)	23 (1.8)	18 (1.9)	4 (1.0)	4 (1.0)	8 (1.2)
Wyoming	8 (1.2)	45 (2.4)	22 (1.7)	18 (1.6)	6 (0.9)	3 (0.7)	8 (1.1)
TERRITORIES							
Guam	45 (2.4)	40 (2.4)	10 (1.9)	3 (1.0)	2 (0.8)	1 (0.5)	3 (0.8)
Virgin Islands	47 (3.4)	47 (3.3)	4 (1.1)	1 (0.7)	0 (0.3)	0 (0.0)	0 (0.3)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.42 National Results for Demographic Subgroups for the Extended-Response Task, "Marcy Dot Pattern"

Grade 8

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	16 (1.0)	63 (1.3)	10 (0.7)	6 (0.7)	1 (0.2)	5 (0.6)	6 (0.7)
Northeast	18 (3.2)	61 (3.2)	10 (1.9)	4 (0.7)	2 (0.5)	6 (1.8)	8 (1.6)
Southeast	20 (2.0)	64 (2.2)	9 (1.5)	3 (0.7)	1 (0.4)	4 (1.1)	4 (1.3)
Central	10 (1.5)	65 (2.1)	10 (1.4)	8 (1.4)	1 (0.4)	6 (1.1)	7 (1.4)
West	16 (2.0)	62 (2.8)	10 (1.1)	7 (1.8)	0 (0.2)	4 (1.1)	4 (1.1)
White	12 (1.1)	63 (1.5)	11 (0.8)	7 (0.8)	1 (0.2)	6 (0.8)	8 (0.9)
Black	24 (2.9)	67 (2.9)	6 (1.6)	2 (0.9)	0 (0.0)	1 (0.5)	1 (0.5)
Hispanic	28 (2.8)	61 (3.1)	7 (2.0)	3 (1.2)	0 (0.0)	1 (0.5)	1 (0.5)
Male	19 (1.5)	63 (2.2)	8 (1.0)	5 (0.9)	1 (0.2)	5 (0.9)	5 (0.9)
Female	13 (1.2)	63 (1.6)	12 (1.1)	6 (1.0)	1 (0.3)	5 (0.8)	6 (0.9)
Advantaged Urban	8 (2.9)	62 (5.1)	10 (1.9)	6 (1.6)	1 (0.6)	11 (2.5)	13 (2.6)
Disadvantaged Urban	32 (3.9)	59 (4.7)	4 (1.3)	4 (1.9)	1 (0.6)	1 (0.5)	1 (0.7)
Extreme Rural	16 (2.9)	69 (3.6)	8 (2.3)	2 (1.1)	1 (0.7)	4 (2.0)	5 (2.3)
Other	15 (1.3)	62 (1.5)	11 (0.9)	6 (0.9)	1 (0.2)	4 (0.7)	5 (0.7)
Public	16 (1.2)	64 (1.4)	9 (0.8)	6 (0.7)	1 (0.2)	4 (0.6)	5 (0.6)
Catholic and Other Private	11 (1.7)	56 (2.7)	12 (1.6)	7 (1.2)	2 (0.9)	10 (2.2)	13 (2.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 5.43 | Percentages for Responses to Extended-Response Question, "Marcy Dot Pattern"

PUBLIC SCHOOLS	Grade 8 - 1992						
	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
NATION	16 (1.2)	64 (1.4)	9 (0.8)	6 (0.7)	1 (0.2)	4 (0.6)	5 (0.6)
Northeast	18 (3.9)	62 (3.8)	9 (1.9)	4 (1.0)	1 (0.5)	6 (1.6)	7 (1.8)
Southeast	22 (2.2)	63 (2.3)	9 (1.5)	3 (0.7)	1 (0.6)	2 (0.9)	3 (1.1)
Central	10 (1.3)	66 (2.3)	9 (1.6)	8 (1.5)	1 (0.4)	6 (1.2)	7 (1.4)
West	17 (2.2)	63 (2.8)	10 (1.3)	7 (1.9)	0 (0.3)	3 (1.1)	4 (1.1)
STATES							
Alabama	15 (1.5)	70 (2.2)	8 (1.2)	4 (0.8)	0 (0.2)	3 (0.7)	3 (0.7)
Arizona	17 (1.4)	62 (2.3)	9 (1.2)	6 (1.1)	1 (0.5)	4 (0.9)	6 (1.1)
Arkansas	14 (1.8)	70 (2.3)	9 (1.5)	3 (0.9)	2 (0.4)	3 (0.7)	4 (0.9)
California	20 (1.6)	56 (2.5)	11 (1.6)	6 (1.0)	1 (0.5)	5 (0.9)	6 (1.1)
Colorado	12 (1.4)	61 (1.8)	13 (1.1)	8 (1.1)	2 (0.6)	5 (0.8)	6 (1.1)
Connecticut	11 (1.3)	58 (2.0)	12 (1.5)	9 (1.0)	2 (0.7)	8 (1.0)	10 (1.3)
Delaware	17 (2.2)	63 (2.5)	10 (1.4)	5 (1.0)	1 (0.4)	4 (1.1)	5 (1.1)
Dist. Columbia	24 (2.3)	64 (2.4)	6 (1.4)	2 (0.8)	1 (0.5)	4 (0.9)	5 (0.9)
Florida	19 (1.8)	64 (2.5)	8 (1.4)	4 (1.0)	1 (0.3)	4 (0.7)	5 (0.9)
Georgia	17 (1.7)	65 (2.1)	10 (1.4)	3 (0.7)	1 (0.5)	4 (0.9)	5 (0.9)
Hawaii	24 (1.7)	56 (2.2)	11 (1.5)	6 (0.9)	2 (0.6)	3 (0.7)	4 (0.9)
Idaho	13 (1.5)	63 (1.8)	9 (1.5)	9 (1.3)	1 (0.4)	5 (1.1)	6 (1.3)
Indiana	12 (1.1)	65 (2.1)	11 (1.6)	6 (0.9)	1 (0.5)	5 (0.9)	6 (1.0)
Iowa	6 (0.8)	67 (2.2)	11 (1.6)	8 (1.0)	3 (0.6)	6 (0.9)	8 (1.1)
Kentucky	10 (1.4)	68 (1.9)	11 (1.1)	5 (0.8)	1 (0.4)	4 (1.0)	5 (1.1)
Louisiana	18 (1.8)	66 (2.3)	9 (1.4)	3 (0.9)	1 (0.5)	1 (0.5)	3 (0.8)
Maine	9 (1.1)	60 (2.4)	15 (1.7)	6 (1.4)	2 (0.7)	7 (1.3)	10 (1.5)
Maryland	15 (2.0)	61 (2.4)	9 (1.2)	6 (1.1)	3 (0.9)	6 (1.1)	9 (1.4)
Massachusetts	14 (1.5)	57 (2.4)	13 (1.6)	7 (1.3)	2 (0.7)	7 (1.1)	9 (1.4)
Michigan	14 (1.6)	64 (2.0)	10 (1.3)	5 (0.9)	2 (0.5)	5 (1.2)	7 (1.1)
Minnesota	7 (1.0)	60 (2.0)	15 (1.6)	10 (1.2)	2 (0.5)	7 (1.1)	9 (1.2)
Mississippi	17 (2.1)	70 (2.2)	7 (1.0)	3 (0.6)	1 (0.5)	2 (0.7)	3 (0.9)
Missouri	11 (1.5)	64 (2.2)	11 (1.5)	6 (1.1)	1 (0.4)	7 (1.2)	8 (1.2)
Nebraska	9 (1.1)	64 (2.2)	12 (1.6)	6 (1.5)	2 (0.6)	7 (1.4)	9 (1.4)
New Hampshire	12 (1.5)	59 (2.3)	12 (1.5)	9 (1.3)	2 (0.6)	7 (1.1)	9 (1.2)
New Jersey	12 (1.6)	58 (2.5)	14 (1.6)	7 (1.3)	2 (0.8)	7 (1.3)	10 (1.6)
New Mexico	15 (1.5)	64 (2.1)	11 (1.5)	5 (1.1)	1 (0.4)	3 (0.7)	4 (0.8)
New York	16 (1.7)	61 (2.1)	11 (1.7)	7 (1.4)	1 (0.4)	4 (1.0)	5 (1.0)
North Carolina	14 (1.6)	66 (1.7)	9 (1.2)	5 (1.0)	1 (0.4)	5 (0.9)	6 (0.9)
North Dakota	8 (1.3)	66 (2.8)	12 (1.6)	7 (1.4)	2 (0.5)	5 (1.0)	7 (1.1)
Ohio	14 (1.4)	60 (2.6)	14 (2.2)	5 (0.8)	1 (0.5)	5 (1.1)	6 (1.1)
Oklahoma	11 (1.4)	67 (2.7)	11 (1.8)	4 (1.0)	1 (0.3)	5 (1.3)	6 (1.3)
Pennsylvania	12 (1.5)	63 (2.2)	12 (1.4)	6 (1.0)	1 (0.5)	6 (1.1)	7 (1.3)
Rhode Island	13 (1.5)	62 (2.3)	11 (2.0)	7 (1.6)	2 (0.6)	5 (1.1)	7 (1.2)
South Carolina	12 (1.4)	68 (1.9)	9 (1.3)	6 (1.0)	1 (0.4)	5 (0.8)	5 (1.0)
Tennessee	15 (1.4)	66 (2.2)	11 (1.9)	4 (0.8)	0 (0.3)	3 (0.7)	3 (0.8)
Texas	16 (1.6)	61 (2.4)	11 (1.4)	7 (1.2)	1 (0.4)	4 (0.9)	6 (1.0)
Utah	12 (1.5)	65 (1.8)	9 (1.1)	8 (1.2)	2 (0.6)	5 (0.8)	6 (1.0)
Virginia	14 (1.5)	62 (1.9)	12 (1.5)	6 (0.9)	2 (0.5)	5 (0.9)	7 (1.1)
West Virginia	16 (1.6)	68 (2.1)	8 (1.0)	4 (0.8)	1 (0.4)	3 (0.7)	4 (0.8)
Wisconsin	9 (1.5)	58 (2.4)	14 (1.7)	7 (1.2)	4 (1.6)	7 (1.2)	11 (2.0)
Wyoming	11 (1.4)	62 (2.1)	13 (1.5)	7 (1.1)	1 (0.5)	6 (1.1)	7 (1.1)
TERRITORIES							
Guam	33 (2.8)	52 (2.8)	7 (1.5)	6 (1.4)	2 (0.8)	0 (0.3)	2 (0.8)
Virgin Islands	48 (2.8)	49 (2.8)	3 (1.0)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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Grade 12 Question: Effective Tax Rates

The Task

This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation. Your answer should be clear enough so that another person could read it and understand your thinking. It is important that you show all your work.

One plan for a state income tax requires those persons with income of \$10,000 or less to pay no tax and those persons with income greater than \$10,000 to pay a tax of 6 percent only on the part of their income that exceeds \$10,000.

A person's effective tax rate is defined as the percent of total income that is paid in tax.

Based on this definition, could any person's effective tax rate be 5 percent? Could it be 6 percent? Explain your answer. Include examples if necessary to justify your conclusions.

Did you use the calculator on this question?

Yes No

Possible Solution

a) Yes, it can be 5%: Let x equal the number of dollars of income.

$0.06(x - 10{,}000) = 0.05x$
$0.06x - 600 = 0.05x$
$0.01x = 600$
$x = 60{,}000$

If the income is \$60,000 then the **effective** tax rate is 5 percent.

Possible Solution (continued)

b) No, it cannot be 6 %.

Let x equal the number of dollars of income.

$0.06 = 0.06(x - 10{,}000)$
$0.06x = 0.06x - 600$
$0 = -600$; This is a false statement, therefore there is no amount of income for which the effective tax rate is 6 percent;

OR, for an income of x dollars, where x is greater than \$10,000, the amount of tax equals 0.06(x - \$10,000).

The effective tax rate is:

$$\frac{0.06\ (x\ -\ 10{,}000)}{x} = \frac{0.06x\ -\ 600}{x} = 0.06\ -\ \frac{600}{x}$$

As x becomes very large, the **effective** tax rate approaches 0.06 but theoretically never becomes 6 percent;

OR, $\frac{600}{x}$ is always a positive number, so $0.06 - \frac{600}{x}$ is always less than 0.06.

Thus, the **effective** tax rate is less than 6 percent.
Students need to understand that in order for a person to pay any state tax, his or her income must exceed \$10,000. Thus, an appropriate strategy for this problem would be to represent the amount of a person's taxable income in a meaningful way with the use of an expression such as (x – 10,000), where x is the number of dollars of income and x is greater than 10,000. Students then can determine by either arithmetic or algebraic methods that there is a unique income, \$60,000, for which the **effective** tax rate is 5 percent.

In attempting to determine whether there is an income for which the **effective** tax rate is 6 percent, it is necessary for students to extend their reasoning skills to consider either implicitly or explicitly a limiting process or to understand the conditions for which an equation has no real solutions.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
20 (1.2)	0	**No Response**
66 (1.4)	1	**Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

This INCORRECT response does reiterate some given information but does not display any evidence of an approach that might be used to determine the possibility of either a 5 or 6 percent effective tax rate.

1 plan

income $10,000 or less => no tax

income > $10,000 => pay 6% on difference from $10,000

Any person's effective tax rate cannot be 6-percent or be 5 percent.

If everyone does not pay tax because of their income then any person's effective income could not be.

---

* The standard errors of the estimated percentages appear in parentheses.

National Percent for Each Category	Rating and Performance Category	
9 (0.9)	2	**Minimal -- Student shows some evidence of working with the 5% or 6% and the $10,000 appropriately.**

This MINIMAL response shows that the student understands that only income over $10,000 is taxed. This is illustrated by the example involving $20,000.

- Yes, it could be 5% if they made enough money to pay 5% of their total salery.

- Yes, it could be 6%, for the same reason as above.

If you made more than $10,000, you pay tax on what is over 10,000, for example, if you made 20,000, you would pay $600 on the extra $10,000 you made.

National Percent for Each Category

2 (0.4)

Rating and Performance Category

3 **Partial -- There is evidence of some correct work; i.e., an example of a specific effective tax rate or a relevant equation is displayed.**

This PARTIAL response contains a correct illustration of an effective tax rate of 5.4%, which would occur for an income of $100,000. The discussion about an effective tax rate of 6% is inaccurate.

\$10,000 – tax free

$-(\$100,000 \times .05 = \$5,000) \Rightarrow$ Effective Tax

$100,000 - 10,000 = 90,000 \times .06 = 5400$

5,400 is what % of 100,000

$\frac{5400}{100000} = 5.4\%$

If your salary is 100,000 it is possible to be taxed 5% of your total income, even if the 1st 10,000 is tax free

$\text{Income} = 200,000 \times \overset{\text{5\% tax}}{\uparrow}(.05) = 10,000 \Rightarrow$ Effective tax rate

$190,000 \times (.06) = 11,400 \Rightarrow$ taxes paid

6% is possible

National Percent For Each Category	Rating and Performance Category	
2 (0.5)	4	**Satisfactory** -- Student correctly shows that the effective tax rate can be 5% OR shows that an effective tax rate of 6% is not possible -- but not both.

This SATISFACTORY response shows that the amount of income for which the effective rate is 5% must be $60,000.

Let's say Income =

$$
\begin{array}{r}
\$60,000 \\
-\underline{10,000} \\
50,000
\end{array}
$$

$$\text{Tax} = .06(50,000) = 3,000$$

$$60,000x = 3,000$$

$$x = .05 = \boxed{5\%}$$

It could be 5%.

I don't see how it could be 6%

National Percent for Each Category	**Rating and Performance Category**	
1 (0.4)	5	**Extended -- The work for both the 5% and 6% effective tax rate cases is clearly and accurately shown.**

This EXTENDED response provides all the work necessary to show that there exists an income for which the effective tax rate is 5%. In a similarly efficient manner, the student demonstrates that there exists no amount of income for which the effective tax rate is 6%.

YES

5% $\leq$ \$10,000 no tax

$>$ \$10,000 6% on over \$10,000

x = \$ income over \$10,000

$.06(x) = .05(10{,}000 + x)$

$.06x = 500 + .05x$

$.01x = 500$

$x = 50{,}000$

Someone with an income of \$60,000 would have effective tax rate of 5%

NO

6%

$.06(x) = .06(10{,}000 + x)$

$.06x = 600 + .06x$

$0 \neq 600$

Not possible to have 6% effective tax rate

Grade 12 Question: Patterns of Squares

The Task

This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation. Your answer should be clear enough so that another person could read it and understand your thinking. It is important that you show all your work.

$$15^2 = 225$$
$$25^2 = 625$$
$$35^2 = 1225$$

The examples above suggest the following statement.

> When a positive integer that ends in the digit 5 is squared, the resulting integer ends in 25.

Explain why this statement is always true. (Hint: $(10n + 5)^2 = \ ?$)

Did you use the calculator on this question?

○ Yes ○ No

Possible Solution

For n a positive integer:
$(10n + 5)^2 = 100n^2 + 100n + 25 = 100(n^2 + n) + 25$

Since n is a positive integer it follows that n^2, $n^2 + n$, and $100(n^2 + n)$ are positive integers. The integer $100(n^2 + n)$ is a multiple of 100 and thus ends in 00, i.e., its unit and tens digits are both 0. Therefore, when 25 is added to $100(n^2 + n)$ the sum will end in 25, i.e., the tens and unit digits are 2 and 5, respectively.

When asked to square an expression such as $(a + b)$ many students will **incorrectly** state that $(a + b)^2 = a^2 + b^2$. This significant misconception usually occurs because students fail to recognize that $(a + b)^2 = a^2 + ba + ab + b^2$. Therefore, when the multiplication of $(a + b)$ times $(a + b)$ is carried out and like terms are collected, the resulting product is $a^2 + 2ab + b^2$. Thus, it is the middle term, 2ab, that is often overlooked, even by some good students. This principle and resulting algorithm are central to showing that when a positive integer that ends with a units digit of 5 is squared, the resulting product is an integer that ends in 25. Additionally, it is necessary for students to demonstrate a clear understanding of place value and powers of 10 in order to fully justify their explanations.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
17 (1.4)	0	**No Response**
64 (1.7)	1	**Incorrect -- The work is completely incorrect or irrelevant, or the response states, "I don't know."**

This INCORRECT response fails to demonstrate any meaningful work and contains several errors that convey a misunderstanding of important algebraic concepts that are being assessed.

$(10n + 5)^2 = (15n)^2 = 225$

If the answer from the equation ends in 5, then the answer will alway be 25.

---

* The standard errors of the estimated percentages appear in parentheses

National Percent for Each Category*	**Rating and Performance Category**
16 (1.2)	2 **Minimal -- Student provides additional numerical examples only or states $(10n + 5)^2 = 100n^2 + 25$ only.**

This MINIMAL response gives an additional numerical example not provided in the question that indicates some understanding of the problem.

Any Positive integer times itself will always have 25 at the end of the answer because if $15^2 = 225$ $15 \times 15 = 225$ it ends in 5 so it will have 25 in the answer

Example $45 \times 45 = 20\boxed{25}$

$5 \times 5 = 25$

thats How you get 25 at the end of each answer

National Percent for Each Category	Rating and Performance Category	
1 (0.3)	3	**Partial -- Student states $(10n + 5)^2 = 100n^2 + 25$, and provides a partially correct explanation.**

This PARTIAL response shows the relationship between a multiple of 100 and the addition of 25. However, this response also contains the misconception that $(10n + 5)^2 = 100n^2 + 25$.

Because the square of 5 is 25 and the square of 10n is always equal to n squared times 100

ie:

$(10n+5)^2 = x$

if $n=4 \rightarrow [10(n)]^2 = [40]^2 =$

1600

$n^2 = 4^2 = \boxed{16} \times 100 = 1600$ ✓

$5^2 = 25$

$1600 + 25 = 1625$

National Percent for Each Category	Rating and Performance Category	
1 (0.2)	4	**Satisfactory -- Student states that $(10n + 5)^2 = 100n^2 + 100n + 25$ and mentions zero(s). The explanation ties 25 to a multiple of 10 or 100.**

This SATISFACTORY response correctly shows that $(10n + 5)^2 = 100n^2 + 100n + 25$ and also gives a rather weak statement that relates a multiple of 100 and the addition of 25.

$(10n+5)^2 = 100n^2 + 100n + 25$

100 times any number or n leves two empty spases witch only the 25 can fill

National Percent for Each Category	**Rating and Performance Category**	
1 (0.4)	5	**Extended -- Student displays a solution that is mathematically accurate and provides a clear and complete explanation.**

This EXTENDED response correctly expands $(10n + 5)^2$ and gives an explanation that for any number n the expansion will have 0s in the last two digits and thus when 25 is added the resulting integer will end in 25.

$$(10N+5)^2 = 100N^2 + 100N + 25$$

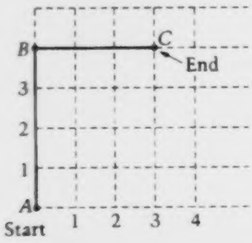
~~If you multiply out~~
~~you first~~

For any Number N, $100N^2 + 100N$, will End in — 00, which you must add 25 to. This results in the Number ending in 25.

Grade 12 Question: Graphing Path of Object

The Task

This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation. Your answer should be clear enough so that another person could read it and understand your thinking. It is important that you show all your work.



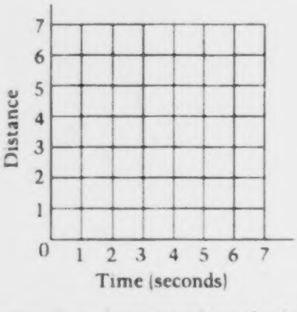
The darkened segments in the figure above show the path of an object that starts at point A and moves to point C at a constant rate of 1 unit per second. The object's distance from point A (or from point C) is the shortest distance between the object and the point.

Please answer the questions on page 9 that refer to this graph.

In the space below, complete the following steps.

a) Sketch the graph of the distance of the object from point A over the 7-second period.

b) Then sketch the graph of the distance of the object from point C over the same period.

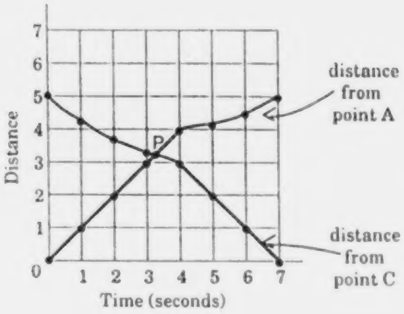


c) On your graph, label point P at the point where the distance of the object from point A is equal to the distance of the object from point C.

d) Between which two consecutive seconds is the object equidistant from points A and C?

Possible Solution

a) and b)



c)

P = $\left(3\frac{1}{8}, \quad 3\frac{1}{8}\right)$

Seconds	Distance from Point A	Distance from Point C
0	0	5
1	1	$\sqrt{18} \approx 4.2$
2	2	$\sqrt{13} \approx 3.6$
3	3	$\sqrt{10} \approx 3.2$
4	4	3
5	$\sqrt{17} \approx 4.1$	2
6	$\sqrt{20} \approx 4.5$	1
7	5	0

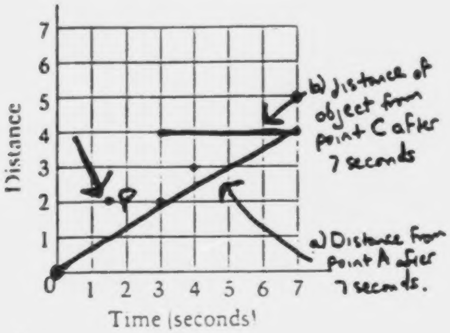
d) Between 3 and 4 seconds.

Students need to realize that the graph of the distance of the object from point A is linear only during the first four seconds. At the end of the fifth second it is critical for students to observe that the distance of the object from point A is equal to the length of the hypotenuse of a right triangle with sides of length 4 and 1 and that distance is equal to $\sqrt{4^2 + 1^2} = \sqrt{17}$ by the Pythagorean relationship. In a like manner, at the end of the sixth and seventh seconds the distance the object is from point A is equal to $\sqrt{4^2 + 2^2} = \sqrt{20} = 2\sqrt{5}$ and $\sqrt{4^2 + 3^2} = \sqrt{25} = 5$, respectively. When the seven resulting (time, distance) ordered pairs are plotted on the axes provided and the graph of the distance of the object from point A is sketched, students should have drawn a non-linear path. The non-linearity may be observed from the change in slope of the path that occurs between the points (4,4) and (5,4.1) and thereafter. The path of the distance of the object from point C, on the other hand, is non-linear for the first four seconds and linear during the final three seconds. Another facet of this task is for students to understand that the distance of the object from point A is equal to the distance of the object from point C at the point where the two curves intersect, which occurs between the third and fourth seconds.

National Results, Scoring Guide, and Sample Responses

National Percent for Each Category*	Rating and Performance Category	
9 (0.8)	0	No Response
68 (1.3)	1	Incorrect -- The work is completely incorrect or irrelevant or the response states, "I don't know."

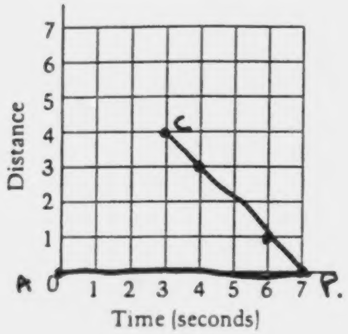
This INCORRECT response indicates some relevance to the task but the work is insufficient to warrant recognition even at the minimal level.



d) 1 and 2

National Percent for Each Category*	Rating and Performance Category	
18 (1.4)	2	Minimal -- At least two points are plotted correctly on at least one of the two distance vs. time graphs.

This MINIMAL response shows an incomplete graph of the distance of the object from Point C. The portion of the graph shown does contain three correctly plotted points.



d) point C + P

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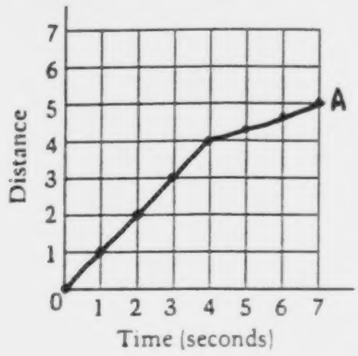
* The standard errors of the estimated percentages appear in parentheses.

National Percent for Each Category	Rating and Performance Category
4 (0.8)	3 **Partial** -- Portions of one or both graphs are correct; point P is not located or is located incorrectly and the time when the object is equidistant from points A and C is incorrect or missing.

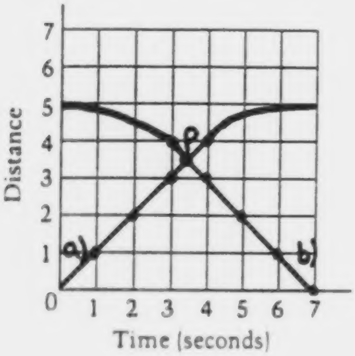
This PARTIAL response correctly shows the graph of the distance of the object from Point A, including the change in slope at the point (4,4) that indicates the path is nonlinear.



d)

National Percent for Each Category	Rating and Performance Category
0 (0.2)	4 **Satisfactory** -- Both graphs are non-linear but the slope of one graph does not change at the appropriate point. Point P is located correctly but the time when the object is equidistant from points A and C is incorrect or missing.

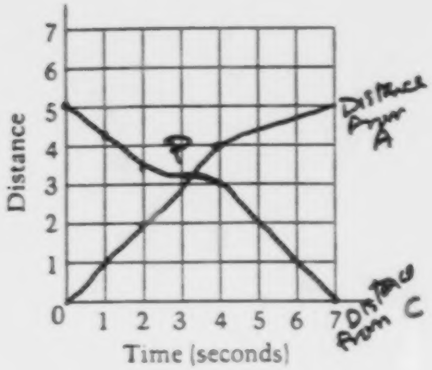
This SATISFACTORY response would have been at the extended level except that the slope of the graph of the distance of the object from point C does not change at the point (4,3) but rather at the point (3,4). The fact that the curvature of this graph is inaccurate would not have deducted from the student's score.



d) 3 and 4

National Percent for Each Category	**Rating and Performance Category**	
1 (0.2)	5	**Extended -- Both graphs are accurately sketched and show change in slope at the points (4,4) and (4,3). Graphs must be non-linear but curvature (concavity) need not be exact. Point P is located at the intersection of the two graphs between the 3rd and 4th seconds.**

This EXTENDED response clearly shows the graphs of the distance of the object from Points A and C are nonlinear curves with the change in the slopes of the curves changing at points (4,4) and (4,3), respectively. Additionally, the student has located point P at the intersection of the two graphs and indicated that the object is equidistant from points A and C between the third and fourth seconds.



d) 3 and 4

TABLE 5.44 National Results for Demographic Subgroups for the Extended-Response Task, "Effective Tax Rates"

Grade 12

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	20 (1.2)	66 (1.4)	9 (0.9)	2 (0.4)	2 (0.5)	1 (0.4)	3 (0.7)
Northeast	21 (2.5)	62 (3.0)	9 (1.9)	2 (0.7)	4 (1.7)	1 (0.5)	5 (1.8)
Southeast	23 (2.2)	68 (2.7)	7 (1.5)	2 (0.6)	1 (0.4)	0 (0.1)	1 (0.4)
Central	15 (2.2)	69 (2.5)	9 (1.4)	2 (0.6)	2 (0.8)	2 (1.2)	4 (1.7)
West	22 (2.8)	62 (3.4)	10 (1.9)	3 (0.9)	2 (0.9)	1 (0.5)	3 (1.2)
White	17 (1.3)	66 (1.6)	10 (1.1)	3 (0.5)	3 (0.6)	2 (0.5)	4 (0.9)
Black	31 (3.3)	66 (3.7)	1 (0.8)	1 (0.5)	2 (1.7)	0 (0.0)	2 (1.7)
Hispanic	32 (4.7)	63 (6.4)	5 (2.7)	0 (0.3)	0 (0.0)	0 (0.4)	4 (0.4)
Male	21 (1.9)	67 (2.0)	7 (1.0)	2 (0.4)	2 (0.6)	1 (0.4)	3 (0.8)
Female	20 (1.4)	64 (1.7)	10 (1.2)	2 (0.6)	2 (0.8)	1 (0.7)	4 (1.1)
Advantaged Urban	11 (2.0)	64 (3.1)	13 (2.4)	3 (1.0)	5 (1.9)	4 (1.2)	9 (2.1)
Disadvantaged Urban	30 (4.0)	65 (4.3)	3 (1.4)	0 (0.4)	1 (0.8)	0 (0.3)	1 (0.8)
Extreme Rural	16 (2.2)	68 (2.9)	12 (2.8)	3 (1.0)	0 (0.3)	0 (0.4)	1 (0.4)
Other	21 (1.6)	65 (1.9)	8 (1.0)	2 (0.5)	2 (0.6)	1 (0.5)	3 (0.9)
Public	21 (1.3)	66 (1.6)	9 (1.0)	2 (0.4)	2 (0.5)	1 (0.4)	2 (0.6)
Catholic and Other Private	14 (2.1)	63 (2.6)	10 (2.6)	3 (1.0)	6 (1.8)	3 (1.1)	9 (2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 5.45 National Results for Demographic Subgroups for the Extended-Response Task, "Patterns of Squares"

Grade 12

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	17 (1.4)	64 (1.7)	16 (1.2)	1 (0.3)	1 (0.2)	1 (0.4)	2 (0.4)
Northeast	19 (2.0)	57 (2.7)	20 (2.5)	0 (0.3)	0 (0.4)	4 (1.3)	4 (1.4)
Southeast	20 (3.7)	64 (4.1)	14 (2.4)	1 (0.3)	1 (0.3)	1 (0.5)	1 (0.6)
Central	13 (1.9)	69 (2.0)	15 (2.0)	1 (0.6)	1 (0.6)	1 (0.4)	2 (0.7)
West	17 (2.9)	64 (4.0)	15 (2.6)	4 (1.0)	0 (0.3)	0 (0.3)	1 (0.6)
White	12 (1.4)	67 (1.9)	17 (1.4)	2 (0.4)	1 (0.3)	2 (0.5)	3 (0.6)
Black	36 (5.1)	56 (5.5)	7 (1.8)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
Hispanic	25 (4.4)	56 (5.2)	17 (4.4)	2 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)
Male	19 (2.0)	62 (2.3)	15 (1.4)	2 (0.5)	0 (0.2)	2 (0.7)	2 (0.7)
Female	15 (1.6)	65 (2.2)	17 (1.7)	1 (0.5)	1 (0.3)	1 (0.4)	2 (0.5)
Advantaged Urban	8 (2.1)	64 (3.4)	19 (3.2)	3 (1.5)	2 (0.7)	4 (1.9)	6 (2.1)
Disadvantaged Urban	28 (4.9)	57 (5.1)	14 (2.4)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)
Extreme Rural	17 (4.5)	70 (5.9)	12 (3.3)	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)
Other	17 (1.5)	63 (1.9)	17 (1.8)	1 (0.4)	1 (0.3)	1 (0.4)	2 (0.5)
Public	17 (1.5)	64 (1.9)	15 (1.4)	1 (0.4)	1 (0.2)	1 (0.4)	2 (0.4)
Catholic and Other Private	14 (2.2)	59 (3.2)	21 (2.4)	2 (0.7)	2 (0.8)	2 (0.8)	4 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 5.46 National Results for Demographic Subgroups for the Extended-Response Task, "Graphing Path of Object"

Grade 12

	No Response	Incorrect	Minimal	Partial	Satisfactory	Extended	Satisfactory or Better
Nation	9 (0.8)	68 (1.3)	18 (1.4)	4 (0.8)	0 (0.2)	1 (0.2)	1 (0.3)
Northeast	8 (2.0)	63 (2.8)	20 (3.6)	7 (2.3)	1 (0.3)	1 (0.4)	1 (0.6)
Southeast	10 (1.3)	71 (3.1)	17 (2.9)	1 (0.5)	0 (0.1)	1 (0.4)	1 (0.4)
Central	7 (1.6)	67 (1.7)	20 (2.3)	5 (1.1)	1 (0.5)	1 (0.5)	2 (0.7)
West	10 (1.4)	69 (2.3)	15 (2.0)	5 (1.7)	0 (0.3)	1 (0.5)	1 (0.4)
White	8 (0.9)	66 (1.4)	19 (1.7)	5 (1.1)	1 (0.2)	1 (0.3)	2 (0.4)
Black	12 (2.2)	74 (3.3)	13 (2.6)	1 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)
Hispanic	13 (2.9)	70 (4.2)	16 (3.5)	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)
Male	9 (1.2)	64 (1.9)	20 (1.5)	5 (1.1)	1 (0.3)	1 (0.4)	2 (0.5)
Female	8 (1.2)	71 (2.0)	16 (1.9)	4 (0.8)	0 (0.2)	1 (0.3)	1 (0.3)
Advantaged Urban	3 (1.6)	63 (5.2)	24 (4.2)	8 (2.5)	1 (0.4)	1 (0.7)	2 (0.8)
Disadvantaged Urban	20 (2.9)	65 (3.7)	12 (2.2)	4 (1.6)	0 (0.0)	0 (0.0)	0 (0.0)
Extreme Rural	8 (2.7)	68 (4.6)	21 (3.6)	3 (1.3)	0 (0.0)	0 (0.4)	0 (0.4)
Other	8 (0.9)	69 (1.4)	17 (1.7)	4 (1.0)	1 (0.3)	1 (0.3)	2 (0.4)
Public	10 (0.9)	69 (1.4)	17 (1.2)	4 (0.9)	0 (0.1)	1 (0.3)	1 (0.3)
Catholic and Other Private	4 (1.1)	60 (4.2)	27 (5.2)	7 (1.6)	2 (1.0)	1 (0.3)	3 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 5.47 National Percentages of Satisfactory or Better Responses to Extended-Response Questions

Grade 4

	Pizza Comparison	Graphs of Pockets	Laura Use Calculator	Compare Geometric Figures*	Number Patterns (Photo Album)*	Average Percentage Satisfactory or Better
Nation	23 (1.3)	10 (0.9)	20 (1.5)	10 (0.8)	18 (1.1)	16 (0.6)
Northeast	29 (4.3)	12 (2.5)	25 (3.9)	14 (1.6)	25 (3.0)	21 (1.7)
Southeast	20 (2.4)	9 (2.3)	15 (2.8)	10 (1.3)	12 (1.4)	13 (1.3)
Central	23 (2.2)	9 (1.7)	23 (3.4)	8 (1.0)	20 (2.4)	17 (1.0)
West	23 (2.1)	10 (1.2)	18 (2.3)	9 (2.1)	16 (2.2)	15 (1.1)
White	28 (1.7)	13 (1.3)	24 (2.2)	12 (1.1)	22 (1.4)	20 (0.8)
Black	9 (2.1)	1 (0.4)	5 (1.8)	5 (1.3)	4 (1.2)	5 (0.7)
Hispanic	12 (2.8)	2 (1.0)	11 (2.2)	2 (1.0)	8 (2.0)	7 (1.0)
Male	26 (2.0)	11 (1.5)	22 (1.8)	8 (1.2)	14 (1.4)	16 (0.8)
Female	21 (1.4)	9 (1.2)	18 (2.0)	12 (1.3)	22 (1.9)	17 (0.8)
Advantaged Urban	35 (3.6)	16 (3.4)	32 (4.8)	18 (3.4)	28 (4.3)	26 (2.4)
Disadvantaged Urban	14 (3.5)	2 (0.9)	4 (1.5)	4 (1.0)	2 (1.0)	5 (1.0)
Extreme Rural	18 (3.7)	10 (2.3)	20 (6.3)	5 (2.5)	15 (3.1)	14 (1.9)
Other	23 (1.6)	10 (1.2)	20 (1.7)	10 (0.9)	19 (1.4)	17 (0.7)
Public	23 (1.5)	10 (1.0)	19 (1.6)	10 (0.9)	18 (1.3)	16 (0.7)
Catholic and Other Private	23 (2.7)	12 (2.0)	28 (2.6)	12 (1.8)	20 (2.1)	19 (1.1)

*Secure questions, unreleased.

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

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TABLE 5.48 | Percentage of Satisfactory or Better Responses to Extended-Response Questions

PUBLIC SCHOOLS	Grade 4 - 1992					
	Pizza Comparison	Laura Use Calculator	Graphs of Pockets	Compare Geometric Figures*	Number Patterns* (Photo Album)	Average Percent Satisfactory or Better
NATION	23 (1.5)	19 (1.6)	10 (1.0)	10 (0.9)	18 (1.3)	16 (0.7)
Northeast	29 (5.1)	24 (4.3)	12 (2.5)	13 (2.2)	26 (3.5)	21 (2.0)
Soutneast	20 (2.7)	13 (3.4)	8 (2.4)	10 (1.5)	12 (1.3)	13 (1.6)
Central	23 (2.8)	23 (3.7)	8 (2.1)	8 (1.1)	19 (3.0)	16 (1.3)
West	23 (2.1)	16 (2.2)	10 (1.4)	9 (2.1)	16 (2.3)	15 (1.2)
STATES						
Alabama	16 (1.7)	16 (1.9)	5 (0.9)	6 (0.9)	14 (1.3)	11 (0.8)
Arizona	19 (1.6)	15 (1.2)	7 (1.0)	9 (1.4)	17 (1.3)	13 (0.7)
Arkansas	20 (1.7)	10 (1.3)	7 (1.1)	4 (0.7)	13 (1.7)	11 (0.7)
California	14 (1.9)	18 (1.8)	6 (1.2)	6 (1.1)	11 (1.5)	11 (0.7)
Colorado	21 (1.5)	23 (1.7)	8 (1.2)	10 (1.0)	18 (1.6)	16 (0.7)
Connecticut	27 (1.9)	30 (2.4)	12 (1.6)	14 (1.7)	23 (1.6)	22 (1.0)
Delaware	21 (1.5)	20 (1.6)	7 (1.1)	11 (1.3)	17 (1.7)	15 (0.8)
Dist. Columbia	12 (1.6)	9 (1.0)	3 (0.8)	4 (1.1)	8 (1.6)	7 (0.7)
Florida	17 (1.4)	16 (1.6)	6 (1.2)	9 (1.2)	14 (1.8)	12 (0.8)
Georgia	25 (1.7)	16 (1.5)	8 (1.2)	8 (1.0)	19 (1.4)	15 (0.7)
Hawaii	17 (1.8)	20 (1.9)	7 (1.1)	7 (1.1)	12 (1.4)	12 (0.9)
Idaho	23 (2.0)	25 (1.9)	7 (1.0)	9 (1.3)	16 (1.3)	16 (0.8)
Indiana	24 (2.3)	21 (1.7)	6 (1.1)	8 (1.3)	18 (1.8)	15 (0.9)
Iowa	29 (1.6)	28 (2.2)	12 (1.3)	16 (1.9)	26 (1.9)	22 (1.0)
Kentucky	21 (2.0)	18 (1.7)	6 (1.2)	8 (1.5)	17 (1.5)	14 (0.9)
Louisiana	14 (1.5)	9 (1.5)	5 (0.8)	5 (1.0)	10 (1.6)	8 (0.7)
Maine	30 (2.3)	31 (2.9)	13 (1.6)	12 (1.7)	26 (2.4)	22 (1.0)
Maryland	21 (1.6)	23 (1.8)	9 (1.2)	13 (1.7)	20 (1.8)	17 (0.9)
Massachusetts	22 (2.3)	27 (2.5)	10 (1.6)	14 (1.3)	20 (1.8)	19 (1.1)
Michigan	21 (1.8)	22 (2.3)	10 (1.2)	7 (1.3)	19 (2.0)	16 (1.0)
Minnesota	27 (2.0)	26 (2.3)	11 (1.4)	9 (1.4)	24 (1.9)	20 (0.9)
Mississippi	11 (1.3)	10 (1.3)	4 (0.8)	7 (1.0)	8 (1.1)	8 (0.7)
Missouri	26 (2.1)	23 (2.0)	9 (1.3)	9 (1.4)	20 (1.8)	17 (0.9)
Nebraska	26 (2.5)	23 (1.9)	9 (1.1)	12 (1.7)	20 (1.8)	18 (0.9)
New Hampshire	28 (2.2)	29 (2.0)	9 (1.5)	14 (1.7)	26 (2.2)	21 (1.0)
New Jersey	22 (1.7)	27 (2.0)	10 (1.5)	9 (1.1)	23 (2.3)	18 (0.8)
New Mexico	17 (1.4)	18 (2.7)	4 (1.0)	9 (2.2)	14 (2.1)	12 (0.9)
New York	16 (1.7)	20 (1.8)	9 (1.5)	9 (1.5)	18 (1.9)	15 (1.0)
North Carolina	19 (1.5)	16 (1.7)	6 (0.9)	9 (1.3)	15 (1.5)	13 (0.7)
North Dakota	30 (2.0)	24 (1.7)	10 (1.1)	11 (1.5)	22 (2.0)	20 (0.8)
Ohio	24 (1.8)	23 (1.5)	9 (1.4)	11 (1.4)	19 (1.6)	17 (0.8)
Oklahoma	23 (1.8)	21 (1.8)	7 (1.0)	9 (1.1)	20 (1.7)	16 (0.7)
Pennsylvania	24 (1.7)	23 (1.6)	11 (1.7)	15 (1.4)	22 (1.7)	19 (0.9)
Rhode Island	22 (2.1)	18 (1.7)	7 (1.4)	12 (1.5)	18 (1.7)	16 (1.0)
South Carolina	17 (1.6)	13 (1.4)	6 (0.8)	8 (1.1)	13 (1.4)	11 (0.7)
Tennessee	23 (2.1)	16 (2.2)	6 (1.1)	8 (1.0)	13 (1.4)	13 (0.8)
Texas	17 (1.9)	21 (2.0)	11 (1.5)	9 (1.2)	14 (1.3)	15 (0.8)
Utah	23 (1.8)	21 (1.7)	6 (1.0)	10 (1.2)	19 (1.7)	16 (0.8)
Virginia	24 (1.6)	23 (1.9)	8 (1.6)	12 (1.4)	19 (1.7)	17 (1.0)
West Virginia	19 (1.7)	17 (1.7)	5 (1.0)	8 (1.1)	14 (1.5)	13 (0.7)
Wisconsin	25 (1.7)	29 (2.2)	11 (1.3)	13 (1.3)	24 (1.6)	20 (0.9)
Wyoming	25 (1.9)	24 (1.9)	11 (1.2)	10 (1.4)	21 (1.5)	18 (0.8)
TERRITORY						
Guam	7 (1.4)	8 (1.5)	3 (0.7)	5 (1.0)	10 (1.2)	7 (0.5)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. *Secure Question, Unreleased.

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TABLE 5.49 National Percentages of Satisfactory or Better Responses to Extended-Response Questions

Grade 8

	Treena's Budget	Marcy's Dot Pattern	Radio Stations	Probability (Leroy's Coins)*	Geometric Shapes (Hallway)*	Number Patterns (Tiles)*	Average Percent Satisfactory or Better
Nation	4 (0.5)	6 (0.7)	5 (0.6)	13 (1.1)	7 (0.7)	13 (1.1)	8 (0.5)
Northeast	4 (1.0)	8 (1.6)	6 (1.1)	17 (3.9)	8 (1.9)	16 (1.5)	10 (1.4)
Southeast	3 (0.8)	4 (1.3)	3 (0.8)	10 (1.2)	6 (1.1)	10 (1.8)	6 (0.6)
Central	6 (1.1)	7 (1.4)	6 (1.3)	12 (2.0)	8 (1.5)	14 (1.9)	9 (0.8)
West	3 (0.9)	4 (1.1)	6 (1.4)	14 (1.6)	7 (1.2)	14 (2.6)	8 (0.9)
White	5 (0.6)	8 (0.9)	7 (0.9)	16 (1.5)	9 (1.0)	16 (1.3)	10 (0.6)
Black	0 (0.5)	1 (0.5)	1 (0.6)	1 (0.5)	1 (0.9)	6 (1.7)	2 (0.3)
Hispanic	1 (0.6)	1 (0.5)	1 (0.6)	6 (1.9)	4 (1.3)	6 (1.6)	3 (0.5)
Male	2 (0.5)	5 (0.9)	4 (0.8)	12 (1.3)	7 (1.1)	10 (1.2)	7 (0.5)
Female	6 (0.8)	6 (0.9)	6 (1.0)	14 (1.7)	8 (1.0)	17 (1.8)	10 (0.7)
Advantaged Urban	7 (2.7)	13 (2.6)	10 (1.5)	28 (5.5)	16 (2.8)	20 (4.5)	16 (2.1)
Disadvantaged Urban	2 (1.1)	1 (0.7)	2 (1.5)	3 (1.2)	3 (1.2)	6 (2.4)	3 (0.8)
Extreme Rural	4 (1.8)	5 (2.3)	2 (1.2)	8 (2.1)	5 (1.8)	12 (2.6)	6 (1.0)
Other	4 (0.6)	5 (0.7)	5 (0.8)	12 (1.0)	7 (0.8)	14 (1.2)	8 (0.5)
Public	4 (0.5)	5 (0.6)	5 (0.7)	13 (1.2)	7 (0.8)	13 (1.1)	8 (0.5)
Catholic and Other Private	4 (1.0)	13 (2.0)	7 (1.4)	17 (2.3)	12 (1.9)	13 (1.9)	11 (1.0)

*Secure question, unreleased.

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 5.50 | Percentage of Satisfactory or Better Responses to Extended-Response Questions

PUBLIC SCHOOLS	Grade 8 - 1992						
	Radio Stations	Marcy Dot Pattern	Treena's Budget	Probability* (Coins)	Geometric Shapes* (Hallway)	Number Patterns* (Tiles)	Average Percent Satisfactory or Better
NATION	5 (0.7)	5 (0.6)	4 (0.5)	13 (1.2)	7 (0.8)	13 (1.1)	8 (0.5)
Northeast	5 (1.6)	7 (1.8)	5 (1.3)	18 (4.3)	7 (2.3)	16 (2.1)	10 (1.7)
Southeast	3 (0.7)	3 (1.1)	3 (0.9)	10 (1.5)	5 (1.2)	10 (1.7)	6 (0.7)
Central	5 (1.4)	7 (1.4)	6 (1.2)	11 (2.2)	8 (1.7)	13 (2.0)	8 (0.9)
West	7 (1.5)	4 (1.1)	3 (1.0)	14 (1.7)	6 (1.2)	14 (2.7)	8 (0.9)
STATES							
Alabama	3 (0.8)	3 (0.7)	2 (0.7)	5 (1.0)	4 (0.8)	9 (1.5)	4 (0.5)
Arizona	3 (0.9)	6 (1.1)	4 (0.9)	11 (1.2)	7 (1.2)	11 (1.5)	7 (0.7)
Arkansas	3 (0.7)	4 (0.9)	2 (0.6)	8 (1.1)	4 (0.7)	9 (1.1)	5 (0.4)
California	4 (1.1)	6 (1.1)	3 (0.8)	12 (1.8)	5 (0.9)	12 (1.4)	7 (0.8)
Colorado	7 (1.1)	6 (1.1)	7 (0.9)	18 (2.1)	10 (1.2)	16 (1.7)	11 (0.6)
Connecticut	7 (1.2)	10 (1.3)	7 (1.0)	17 (1.7)	11 (1.2)	14 (1.1)	11 (0.6)
Delaware	4 (1.0)	5 (1.1)	4 (1.4)	9 (1.2)	5 (1.2)	10 (1.2)	6 (0.4)
Dist. Columbia	2 (0.7)	5 (0.9)	1 (0.7)	2 (0.4)	2 (0.9)	6 (1.0)	3 (0.4)
Florida	4 (0.9)	5 (0.9)	4 (0.9)	10 (1.2)	4 (0.8)	9 (1.4)	6 (0.4)
Georgia	5 (0.9)	5 (0.9)	2 (0.6)	10 (1.1)	4 (1.0)	9 (1.7)	6 (0.5)
Hawaii	3 (0.8)	4 (0.9)	1 (0.5)	9 (1.3)	4 (0.7)	8 (1.3)	5 (0.4)
Idaho	7 (1.2)	6 (1.3)	4 (0.7)	9 (1.1)	10 (1.3)	14 (1.5)	8 (0.6)
Indiana	5 (1.0)	6 (1.0)	3 (0.8)	15 (1.8)	9 (1.1)	15 (1.7)	9 (0.7)
Iowa	10 (1.2)	8 (1.1)	8 (1.1)	21 (2.0)	16 (1.5)	16 (1.7)	13 (0.8)
Kentucky	3 (0.6)	5 (1.1)	4 (0.9)	12 (1.5)	7 (1.3)	11 (1.4)	7 (0.5)
Louisiana	1 (0.5)	3 (0.8)	1 (0.5)	4 (1.0)	2 (0.7)	7 (1.2)	3 (0.5)
Maine	8 (1.1)	10 (1.5)	5 (1.1)	18 (1.4)	10 (1.5)	16 (1.6)	11 (0.7)
Maryland	5 (1.1)	9 (1.4)	4 (0.9)	15 (1.2)	8 (1.1)	18 (1.7)	10 (0.7)
Massachusetts	7 (1.0)	9 (1.4)	5 (1.0)	17 (1.8)	11 (1.3)	18 (1.9)	11 (0.7)
Michigan	7 (1.1)	7 (1.1)	4 (0.9)	14 (1.8)	8 (1.2)	14 (1.4)	9 (0.7)
Minnesota	11 (1.6)	9 (1.2)	6 (1.4)	21 (1.6)	15 (1.5)	12 (1.6)	13 (0.7)
Mississippi	2 (0.6)	3 (0.9)	1 (0.5)	7 (1.1)	2 (0.6)	7 (1.2)	4 (0.5)
Missouri	8 (1.2)	8 (1.2)	4 (0.7)	13 (1.4)	8 (1.3)	14 (1.6)	9 (0.7)
Nebraska	7 (1.1)	9 (1.4)	5 (0.9)	19 (2.0)	10 (1.6)	14 (1.5)	11 (0.7)
New Hampshire	8 (1.3)	9 (1.2)	5 (0.8)	19 (1.9)	11 (1.6)	15 (1.4)	11 (0.6)
New Jersey	6 (1.0)	10 (1.6)	5 (1.3)	15 (1.3)	11 (1.5)	16 (1.6)	10 (0.8)
New Mexico	3 (0.8)	4 (0.8)	1 (0.5)	8 (1.1)	5 (1.0)	9 (1.2)	5 (0.4)
New York	7 (1.2)	5 (1.0)	4 (1.0)	16 (1.9)	9 (1.3)	13 (1.9)	9 (0.7)
North Carolina	3 (0.7)	6 (0.9)	3 (0.8)	10 (1.3)	6 (1.0)	9 (1.5)	6 (0.5)
North Dakota	8 (1.5)	7 (1.1)	6 (1.2)	19 (2.2)	14 (1.6)	18 (1.8)	12 (0.8)
Ohio	5 (1.0)	6 (1.1)	5 (1.0)	14 (1.7)	8 (1.2)	17 (2.4)	9 (0.7)
Oklahoma	5 (1.1)	6 (1.3)	3 (0.8)	12 (1.4)	7 (1.6)	11 (1.5)	7 (0.6)
Pennsylvania	8 (1.5)	7 (1.3)	3 (0.8)	15 (1.4)	11 (1.8)	16 (1.8)	10 (0.9)
Rhode Island	5 (1.0)	7 (1.2)	6 (1.1)	10 (1.6)	5 (0.9)	14 (2.0)	8 (0.6)
South Carolina	3 (0.6)	5 (1.0)	2 (0.5)	12 (1.4)	6 (1.2)	10 (1.5)	7 (0.5)
Tennessee	2 (0.6)	3 (0.8)	3 (0.7)	8 (1.2)	5 (1.0)	10 (1.5)	5 (0.5)
Texas	5 (1.3)	6 (1.0)	4 (1.0)	11 (1.6)	8 (1.6)	10 (1.5)	8 (0.7)
Utah	8 (1.3)	6 (1.0)	4 (0.8)	14 (1.4)	9 (1.2)	13 (1.6)	9 (0.5)
Virginia	5 (1.0)	7 (1.1)	4 (0.9)	15 (1.7)	9 (1.5)	12 (1.3)	9 (0.6)
West Virginia	3 (0.6)	4 (0.8)	2 (0.7)	10 (1.4)	3 (0.7)	9 (1.1)	5 (0.4)
Wisconsin	8 (1.2)	11 (2.0)	6 (1.0)	18 (1.9)	10 (1.3)	15 (1.6)	11 (0.9)
Wyoming	8 (1.1)	7 (1.1)	5 (0.9)	15 (1.7)	10 (1.2)	8 (1.3)	9 (0.5)
TERRITORIES							
Guam	3 (0.8)	2 (0.8)	1 (0.4)	4 (1.5)	2 (0.8)	4 (1.1)	3 (0.5)
Virgin Islands	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.3)	0 (0.0)	0 (0.1)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.51 National Percentages of Satisfactory or Better Responses to Extended-Responses Questions

Grade 12

	Effective Tax Rates	Patterns of Squares (ending in 5)	Graphing Path of Object	Bicycle Trip Graph*	Center of Disk*	Extend Pattern of Tiles*	Average Percent Satisfactory or Better
Nation	3 (0.7)	2 (0.4)	1 (0.3)	28 (1.5)	12 (1.0)	5 (0.6)	9 (0.4)
Northeast	5 (1.8)	4 (1.4)	1 (0.6)	31 (2.4)	11 (2.6)	4 (1.0)	10 (0.8)
Southeast	1 (0.4)	1 (0.6)	1 (0.4)	20 (2.3)	12 (1.6)	4 (0.6)	7 (0.6)
Central	4 (1.7)	2 (0.7)	2 (0.7)	31 (4.0)	14 (1.6)	7 (1.1)	10 (0.9)
West	3 (1.2)	1 (0.6)	1 (0.4)	28 (2.7)	10 (2.2)	6 (1.6)	8 (0.7)
White	4 (0.9)	3 (0.6)	2 (0.4)	32 (1.9)	14 (1.2)	6 (0.7)	10 (0.5)
Black	2 (1.7)	0 (0.0)	0 (0.0)	14 (2.6)	5 (2.3)	1 (0.8)	4 (0.7)
Hispanic	4 (0.4)	0 (0.0)	0 (0.0)	14 (2.7)	6 (2.2)	2 (1.6)	4 (0.6)
Male	3 (0.8)	2 (0.7)	2 (0.5)	26 (1.9)	11 (1.3)	6 (1.1)	8 (0.5)
Female	4 (1.1)	2 (0.5)	1 (0.3)	30 (2.4)	13 (1.6)	5 (0.8)	9 (0.5)
Advantaged Urban	9 (2.1)	6 (2.1)	2 (0.8)	38 (3.3)	14 (2.1)	8 (2.0)	13 (1.1)
Disadvantaged White	1 (0.8)	0 (0.0)	0 (0.0)	18 (2.7)	7 (2.2)	2 (0.7)	5 (0.7)
Extreme Rural	1 (0.4)	0 (0.0)	0 (0.4)	19 (3.9)	16 (2.4)	5 (1.3)	7 (0.8)
Other	3 (0.9)	2 (0.5)	2 (0.4)	29 (1.8)	12 (1.4)	6 (0.8)	9 (0.5)
Public	2 (0.6)	2 (0.4)	1 (0.3)	25 (1.7)	12 (1.3)	5 (0.7)	8 (0.4)
Catholic and Other Private	9 (2.1)	4 (1.1)	3 (1.0)	42 (2.5)	10 (2.1)	9 (2.1)	13 (1.0)

*Secure question, unreleased

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent of 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 or less were rounded to 0 percent.

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TABLE 5.52 Average Percentage Correct for Regular Constructed-Response Questions

Grade 4

GRADE 4	Overall	Numbers & Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Regular Constructed-Response						
Nation	42 (0.5)	46 (0.5)	38 (0.7)	36 (0.7)	45 (0.6)	43 (0.8)
Northeast	45 (1.4)	50 (1.1)	41 (2.0)	38 (2.1)	49 (1.6)	48 (2.3)
Southeast	36 (1.2)	40 (1.3)	33 (1.5)	31 (1.1)	39 (1.7)	35 (1.9)
Central	45 (1.0)	48 (0.8)	42 (1.8)	38 (1.2)	48 (1.0)	46 (1.5)
West	42 (1.0)	46 (0.9)	36 (1.2)	37 (1.3)	43 (1.4)	42 (1.9)
White	47 (0.6)	50 (0.6)	43 (0.9)	41 (0.9)	51 (0.8)	49 (1.1)
Black	24 (0.8)	32 (1.0)	20 (1.2)	18 (1.0)	24 (1.3)	22 (1.3)
Hispanic	31 (0.7)	35 (0.7)	28 (1.3)	26 (1.1)	32 (1.2)	27 (1.4)
Male	43 (0.5)	46 (0.5)	38 (0.9)	38 (0.7)	45 (0.7)	43 (1.1)
Female	41 (0.7)	46 (0.7)	38 (1.0)	35 (0.8)	44 (0.8)	42 (1.0)
Advantaged Urban	54 (1.3)	56 (1.3)	51 (2.3)	45 (1.7)	59 (1.8)	56 (2.1)
Disadvantaged Urban	26 (1.4)	34 (1.6)	19 (1.8)	20 (1.4)	26 (1.8)	22 (2.4)
Extreme Rural	40 (2.6)	45 (2.4)	38 (3.6)	34 (2.9)	42 (2.9)	38 (3.5)
Other	42 (0.6)	46 (0.6)	38 (0.8)	37 (0.8)	45 (0.8)	44 (0.9)
Public	41 (0.6)	45 (0.6)	37 (0.8)	35 (0.7)	44 (0.7)	42 (0.9)
Catholic and Other Private	47 (0.9)	50 (0.9)	44 (1.1)	41 (1.4)	50 (1.3)	48 (1.8)

Grade 8

GRADE 8	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Regular Constructed-Response						
Nation	53 (0.5)	60 (0.6)	44 (0.6)	58 (0.6)	46 (0.5)	55 (0.9)
Northeast	54 (1.5)	60 (1.6)	45 (1.5)	60 (1.5)	48 (1.6)	54 (3.0)
Southeast	49 (0.8)	56 (1.0)	40 (1.1)	53 (1.1)	42 (0.8)	51 (1.2)
Central	57 (1.1)	64 (1.4)	47 (1.1)	63 (1.2)	50 (1.1)	61 (1.5)
West	53 (1.0)	59 (1.0)	44 (1.4)	58 (1.2)	46 (0.8)	54 (1.6)
White	59 (0.6)	65 (0.6)	49 (0.7)	64 (0.7)	51 (0.5)	61 (1.0)
Black	36 (0.9)	44 (1.3)	27 (1.1)	39 (1.6)	31 (1.1)	37 (1.5)
Hispanic	42 (0.7)	48 (1.2)	35 (1.1)	46 (1.2)	34 (1.2)	39 (1.3)
Male	53 (0.7)	59 (0.9)	45 (0.8)	58 (0.8)	46 (0.6)	54 (1.0)
Female	54 (0.5)	61 (0.6)	43 (0.5)	59 (0.6)	46 (0.7)	56 (1.0)
Advantaged Urban	64 (1.8)	70 (1.9)	54 (1.6)	71 (1.6)	59 (2.0)	66 (3.4)
Disadvantaged Urban	37 (1.5)	45 (1.8)	30 (1.4)	40 (2.5)	31 (1.4)	37 (2.5)
Extreme Rural	53 (2.8)	62 (2.5)	43 (2.6)	56 (4.1)	46 (2.5)	57 (3.0)
Other	54 (0.6)	60 (0.7)	44 (0.8)	59 (0.8)	46 (0.5)	55 (0.9)
Public	52 (0.5)	59 (0.6)	43 (0.6)	58 (0.6)	45 (0.5)	54 (1.0)
Catholic and Other Private	60 (1.3)	66 (1.3)	49 (1.2)	65 (1.6)	54 (1.4)	60 (1.7)

(Table 5.52 continued on the next page)

Table 5.52 (Continued)

Grade 12

GRADE 12	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Regular Constructed-Response						
Nation	40 (0.5)	49 (0.6)	26 (0.7)	40 (0.6)	47 (0.6)	35 (0.7)
Northeast	42 (0.9)	51 (1.0)	27 (1.0)	41 (1.0)	48 (1.3)	37 (1.3)
Southeast	36 (0.8)	47 (1.2)	20 (0.7)	34 (0.9)	43 (1.0)	30 (1.0)
Central	43 (1.2)	52 (1.4)	27 (1.3)	43 (1.0)	49 (1.3)	39 (1.8)
West	40 (1.0)	48 (1.1)	27 (1.8)	40 (1.3)	47 (0.8)	34 (1.4)
White	44 (0.6)	52 (0.7)	29 (0.8)	43 (0.7)	51 (0.7)	39 (0.8)
Black	26 (0.9)	38 (1.3)	11 (0.6)	23 (1.2)	34 (1.3)	20 (1.1)
Hispanic	32 (0.9)	41 (1.6)	19 (1.2)	33 (1.4)	38 (1.5)	24 (1.9)
Male	41 (0.7)	49 (0.8)	27 (0.9)	42 (0.8)	48 (0.8)	36 (0.9)
Female	40 (0.6)	50 (0.8)	24 (0.7)	38 (0.8)	47 (0.6)	34 (0.9)
Advantaged Urban	49 (1.8)	56 (2.0)	36 (2.2)	48 (2.1)	55 (2.0)	45 (2.3)
Disadvantaged Urban	30 (1.1)	38 (1.2)	16 (1.4)	29 (1.4)	37 (1.5)	22 (1.4)
Extreme Rural	37 (1.5)	48 (1.3)	23 (2.3)	36 (1.6)	44 (1.6)	30 (1.7)
Other	41 (0.6)	50 (0.7)	25 (0.7)	40 (0.7)	48 (0.7)	36 (0.8)
Public	39 (0.6)	48 (0.7)	24 (0.8)	39 (0.7)	46 (0.7)	34 (0.9)
Catholic and Other Private	48 (1.5)	56 (1.4)	33 (1.7)	46 (1.7)	54 (1.8)	45 (1.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

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TABLE 5.53 | Average Percentage Correct for Regular Constructed-Response Questions

PUBLIC SCHOOLS	Grade 4 - 1992					
	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
NATION	41 (0.6)	45 (0.6)	37 (0.8)	35 (0.7)	44 (0.7)	42 (0.9)
Northeast	45 (1.5)	49 (1.2)	41 (2.1)	37 (2.3)	48 (1.8)	48 (2.5)
Southeast	36 (1.4)	39 (1.5)	32 (1.5)	30 (1.3)	38 (2.1)	34 (2.1)
Central	44 (1.2)	48 (1.1)	41 (2.0)	37 (1.2)	47 (1.2)	45 (1.8)
West	41 (1.1)	45 (1.0)	35 (1.2)	36 (1.3)	43 (1.5)	41 (2.0)
STATES						
Alabama	34 (1.0)	38 (1.0)	31 (1.1)	28 (0.9)	38 (1.2)	32 (1.5)
Arizona	40 (0.6)	43 (0.7)	35 (0.9)	36 (0.7)	42 (1.1)	41 (1.0)
Arkansas	36 (0.6)	40 (0.6)	31 (0.9)	29 (0.8)	40 (1.0)	33 (1.0)
California	37 (0.9)	41 (0.9)	32 (1.1)	33 (1.2)	37 (1.4)	39 (1.2)
Colorado	44 (0.7)	46 (0.7)	40 (1.0)	40 (0.9)	47 (1.0)	45 (1.1)
Connecticut	48 (0.8)	50 (0.8)	44 (0.9)	43 (1.0)	52 (1.2)	48 (1.4)
Delaware	40 (0.6)	45 (0.8)	36 (0.7)	34 (0.7)	44 (1.0)	40 (1.0)
Dist. Columbia	27 (0.3)	35 (0.5)	20 (0.7)	23 (0.6)	25 (0.7)	25 (0.8)
Florida	39 (1.1)	42 (1.0)	35 (1.5)	32 (1.1)	43 (1.4)	40 (1.6)
Georgia	39 (0.9)	43 (0.9)	34 (1.1)	32 (0.9)	44 (1.2)	39 (1.6)
Hawaii	40 (0.7)	44 (0.8)	33 (0.9)	36 (0.9)	41 (0.9)	38 (1.0)
Idaho	43 (0.6)	45 (0.7)	41 (0.9)	40 (0.7)	45 (1.0)	45 (1.3)
Indiana	42 (0.7)	46 (0.8)	39 (0.9)	36 (1.0)	47 (1.1)	43 (1.2)
Iowa	49 (0.7)	52 (0.8)	45 (0.8)	42 (0.8)	55 (1.0)	51 (1.3)
Kentucky	38 (0.6)	43 (0.7)	33 (0.8)	31 (0.8)	43 (1.1)	38 (1.2)
Louisiana	33 (0.8)	38 (0.8)	29 (1.1)	27 (0.8)	34 (1.2)	30 (1.3)
Maine	51 (0.7)	51 (0.8)	45 (1.2)	49 (0.8)	55 (1.3)	53 (1.1)
Maryland	42 (0.7)	46 (0.8)	36 (0.8)	36 (0.8)	47 (1.2)	42 (1.0)
Massachusetts	47 (0.9)	50 (1.0)	42 (1.0)	42 (0.9)	51 (1.4)	46 (1.4)
Michigan	42 (1.1)	45 (1.0)	40 (1.3)	38 (1.2)	45 (1.4)	42 (1.6)
Minnesota	48 (0.7)	51 (0.7)	45 (1.0)	43 (0.9)	53 (1.2)	49 (1.2)
Mississippi	30 (0.6)	37 (0.7)	27 (0.8)	22 (0.7)	30 (0.9)	26 (1.0)
Missouri	44 (0.8)	47 (0.7)	40 (1.2)	37 (0.9)	49 (1.2)	44 (1.1)
Nebraska	46 (0.9)	49 (0.8)	42 (1.3)	42 (0.9)	50 (1.3)	46 (1.4)
New Hampshire	49 (0.9)	51 (0.8)	45 (1.1)	45 (1.3)	54 (1.2)	53 (1.3)
New Jersey	47 (1.0)	50 (1.0)	43 (1.2)	39 (1.1)	50 (1.3)	49 (1.4)
New Mexico	39 (1.0)	42 (0.9)	33 (1.2)	35 (1.5)	42 (1.2)	36 (1.6)
New York	42 (0.8)	46 (0.7)	36 (1.2)	33 (1.0)	47 (1.2)	41 (1.2)
North Carolina	38 (0.7)	42 (0.7)	32 (0.8)	31 (0.9)	41 (0.9)	38 (1.1)
North Dakota	48 (0.6)	50 (0.6)	45 (1.0)	41 (0.9)	55 (0.9)	48 (1.1)
Ohio	42 (0.8)	45 (0.8)	38 (1.1)	35 (1.0)	46 (1.1)	42 (1.1)
Oklahoma	42 (0.8)	46 (0.8)	37 (0.9)	34 (1.1)	47 (1.2)	42 (1.1)
Pennsylvania	45 (0.9)	49 (0.8)	42 (1.2)	37 (1.0)	50 (1.3)	45 (1.2)
Rhode Island	39 (0.9)	43 (0.9)	35 (1.1)	33 (1.2)	41 (1.2)	38 (1.4)
South Carolina	37 (0.8)	41 (0.6)	33 (1.1)	31 (0.9)	39 (1.1)	35 (1.3)
Tennessee	36 (0.8)	41 (0.8)	31 (1.0)	28 (0.8)	39 (1.3)	36 (1.2)
Texas	40 (0.9)	44 (0.9)	37 (1.1)	34 (1.0)	45 (1.3)	40 (1.4)
Utah	44 (0.7)	47 (0.7)	41 (1.1)	40 (0.9)	46 (1.0)	46 (1.2)
Virginia	43 (0.9)	46 (0.8)	37 (1.2)	37 (1.2)	49 (1.2)	43 (1.3)
West Virginia	39 (0.6)	42 (0.7)	36 (0.9)	33 (0.8)	42 (1.0)	39 (1.1)
Wisconsin	48 (0.8)	50 (0.8)	43 (1.1)	41 (1.0)	55 (1.0)	50 (1.3)
Wyoming	46 (0.6)	49 (0.6)	41 (0.9)	41 (0.8)	50 (1.0)	47 (1.1)
TERRITORY						
Guam	27 (0.5)	33 (0.5)	20 (0.6)	26 (0.7)	26 (0.7)	25 (1.1)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.53 | Average Percentage Correct for Regular Constructed-Response Questions (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
NATION	52 (0.5)	59 (0.6)	43 (0.6)	57 (0.6)	45 (0.5)	54 (1.0)
Northeast	53 (1.8)	59 (1.9)	44 (1.4)	59 (1.8)	47 (1.9)	52 (3.6)
Southeast	48 (0.7)	55 (0.9)	40 (1.2)	51 (1.0)	40 (0.6)	50 (1.4)
Central	57 (1.2)	64 (1.7)	46 (1.2)	62 (1.3)	49 (1.2)	60 (1.7)
West	52 (1.1)	58 (1.1)	44 (1.4)	58 (1.2)	46 (0.9)	54 (1.6)
STATES						
Alabama	46 (0.9)	53 (0.9)	38 (1.0)	50 (1.1)	40 (0.8)	46 (1.2)
Arizona	53 (0.7)	59 (0.8)	45 (0.8)	59 (0.9)	45 (0.7)	54 (0.9)
Arkansas	48 (0.7)	55 (0.9)	40 (0.6)	53 (1.1)	41 (0.8)	48 (1.0)
California	51 (0.9)	56 (1.1)	44 (0.9)	59 (1.1)	43 (1.0)	52 (1.2)
Colorado	58 (0.6)	63 (0.8)	49 (0.7)	64 (0.8)	50 (0.6)	60 (0.8)
Connecticut	58 (0.7)	64 (0.8)	50 (0.7)	64 (0.8)	50 (0.8)	58 (1.1)
Delaware	53 (0.6)	59 (0.9)	43 (0.7)	58 (0.9)	46 (0.8)	54 (1.0)
Dist. Columbia	37 (0.5)	44 (0.8)	29 (0.8)	39 (1.0)	31 (0.7)	37 (0.8)
Florida	51 (0.8)	57 (0.8)	42 (0.9)	55 (1.0)	44 (0.9)	53 (1.1)
Georgia	49 (0.7)	56 (0.8)	40 (0.8)	54 (1.0)	44 (0.9)	50 (1.1)
Hawaii	50 (0.5)	56 (0.7)	42 (0.7)	58 (0.8)	39 (0.7)	48 (1.0)
Idaho	59 (0.5)	65 (0.6)	50 (0.8)	67 (0.7)	50 (0.6)	62 (0.8)
Indiana	56 (0.6)	62 (0.8)	47 (0.8)	63 (0.8)	49 (0.7)	56 (0.8)
Iowa	63 (0.6)	69 (0.8)	54 (0.6)	68 (0.8)	55 (0.6)	65 (0.9)
Kentucky	51 (0.6)	58 (0.7)	42 (0.7)	56 (0.8)	45 (0.9)	52 (1.1)
Louisiana	44 (0.9)	51 (1.1)	36 (0.9)	48 (1.2)	38 (1.0)	46 (1.0)
Maine	62 (0.5)	66 (0.7)	53 (0.6)	69 (0.8)	54 (0.8)	63 (0.8)
Maryland	53 (0.7)	58 (0.8)	43 (0.7)	59 (1.1)	47 (0.8)	55 (1.1)
Massachusetts	58 (0.6)	65 (0.9)	48 (0.7)	64 (0.9)	50 (0.7)	61 (1.0)
Michigan	55 (0.8)	61 (0.8)	46 (0.9)	60 (1.1)	48 (0.8)	57 (1.0)
Minnesota	63 (0.5)	68 (0.6)	55 (0.8)	69 (0.7)	54 (0.7)	65 (1.0)
Mississippi	42 (0.7)	52 (0.9)	34 (0.8)	45 (0.9)	37 (0.9)	41 (1.1)
Missouri	57 (0.7)	62 (0.8)	48 (0.8)	64 (0.9)	50 (0.9)	59 (1.0)
Nebraska	60 (0.6)	65 (0.8)	51 (0.8)	67 (0.9)	51 (0.7)	62 (1.1)
New Hampshire	61 (0.5)	66 (0.7)	52 (0.8)	68 (0.7)	53 (0.7)	63 (0.8)
New Jersey	57 (0.8)	64 (0.9)	48 (0.9)	61 (1.0)	50 (0.9)	57 (1.2)
New Mexico	50 (0.6)	56 (0.7)	42 (0.7)	57 (0.8)	42 (0.7)	50 (1.1)
New York	54 (1.1)	61 (1.2)	46 (1.1)	60 (1.4)	47 (1.2)	55 (1.6)
North Carolina	50 (0.6)	55 (0.7)	41 (0.8)	55 (0.9)	44 (0.7)	50 (0.9)
North Dakota	63 (0.7)	69 (0.8)	54 (0.7)	70 (0.9)	55 (0.8)	67 (1.2)
Ohio	55 (0.8)	62 (0.9)	45 (0.9)	60 (1.1)	48 (0.8)	57 (1.3)
Oklahoma	55 (0.6)	62 (0.9)	45 (0.6)	60 (0.7)	48 (0.8)	57 (1.0)
Pennsylvania	57 (0.8)	63 (1.0)	49 (0.8)	63 (1.0)	49 (1.0)	60 (1.3)
Rhode Island	54 (0.4)	60 (0.6)	45 (0.5)	59 (0.7)	47 (0.7)	56 (1.5)
South Carolina	50 (0.6)	56 (0.8)	42 (0.7)	56 (0.8)	43 (0.6)	49 (0.9)
Tennessee	50 (0.8)	57 (1.0)	41 (0.9)	54 (1.0)	44 (0.8)	49 (1.1)
Texas	52 (0.7)	57 (0.8)	44 (0.8)	59 (0.9)	46 (0.8)	54 (1.1)
Utah	59 (0.5)	64 (0.7)	49 (0.6)	66 (0.7)	51 (0.6)	62 (0.8)
Virginia	55 (0.7)	62 (0.9)	45 (0.9)	60 (0.9)	47 (0.7)	56 (1.0)
West Virginia	50 (0.6)	56 (0.8)	42 (0.7)	55 (0.9)	43 (0.6)	51 (1.0)
Wisconsin	60 (0.8)	66 (1.0)	51 (0.7)	66 (0.8)	53 (1.0)	63 (1.4)
Wyoming	59 (0.5)	64 (0.6)	50 (0.5)	66 (0.6)	51 (0.6)	61 (1.0)
TERRITORIES						
Guam	38 (0.6)	42 (0.8)	32 (0.8)	46 (1.1)	29 (0.8)	37 (0.9)
Virgin Islands	30 (0.4)	37 (0.7)	24 (0.6)	34 (0.8)	24 (0.7)	27 (0.8)

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TABLE 5.54 Average Percentage Correct for Multiple-Choice Questions

Grade 4

GRADE 4	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Multiple-Choice						
Nation	50 (0.4)	51 (0.5)	50 (0.5)	53 (0.4)	46 (0.5)	42 (0.5)
Northeast	52 (1.1)	54 (1.1)	52 (1.1)	55 (1.3)	47 (1.5)	46 (1.1)
Southeast	46 (0.8)	46 (0.9)	46 (0.9)	50 (1.0)	43 (1.1)	38 (1.3)
Central	51 (1.0)	52 (1.0)	53 (1.2)	55 (1.0)	48 (1.3)	43 (1.2)
West	49 (0.8)	50 (1.0)	50 (0.9)	53 (0.6)	46 (1.0)	42 (0.9)
White	53 (0.5)	54 (0.5)	55 (0.5)	56 (0.5)	50 (0.7)	44 (0.6)
Black	38 (0.6)	39 (0.8)	36 (0.8)	43 (0.9)	32 (1.0)	31 (1.1)
Hispanic	42 (0.7)	43 (0.9)	41 (0.9)	47 (1.0)	37 (1.4)	36 (1.0)
Male	50 (0.5)	51 (0.5)	53 (0.6)	54 (0.6)	47 (0.8)	42 (0.7)
Female	48 (0.5)	50 (0.6)	48 (0.6)	52 (0.6)	44 (0.8)	41 (0.8)
Advantaged Urban	59 (1.4)	61 (1.6)	60 (1.5)	55 (1.0)	56 (1.9)	51 (1.6)
Disadvantaged Urban	38 (1.2)	40 (1.3)	36 (1.3)	50 (1.0)	33 (0.9)	32 (1.6)
Extreme Rural	48 (1.7)	49 (1.8)	49 (2.1)	55 (1.3)	46 (1.8)	40 (1.5)
Other	50 (0.5)	50 (0.5)	51 (0.5)	53 (0.6)	46 (0.6)	42 (0.7)
Public	49 (0.5)	50 (0.5)	50 (0.5)	53 (0.5)	45 (0.6)	41 (0.6)
Catholic and Other Private	53 (0.8)	55 (0.9)	54 (0.9)	54 (0.9)	50 (1.0)	45 (1.1)

Grade 8

GRADE 8	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Multiple-Choice						
Nation	56 (0.4)	64 (0.5)	57 (0.5)	49 (0.5)	51 (0.6)	51 (0.5)
Northeast	57 (1.3)	65 (1.1)	57 (1.2)	50 (1.5)	52 (1.7)	52 (1.5)
Southeast	53 (0.7)	61 (0.8)	53 (0.9)	46 (0.6)	47 (1.1)	48 (0.9)
Central	59 (0.8)	68 (0.8)	60 (1.3)	51 (0.9)	53 (0.9)	53 (1.4)
West	56 (1.0)	64 (1.1)	58 (1.2)	49 (1.0)	51 (1.4)	51 (1.1)
White	60 (0.5)	69 (0.5)	62 (0.6)	52 (0.5)	55 (0.7)	55 (0.7)
Black	42 (0.6)	51 (0.7)	41 (0.8)	36 (0.8)	36 (1.0)	38 (0.8)
Hispanic	46 (0.7)	54 (0.9)	48 (0.8)	41 (0.7)	39 (0.9)	41 (1.0)
Male	56 (0.6)	64 (0.6)	58 (0.7)	49 (0.7)	51 (0.8)	50 (0.8)
Female	56 (0.5)	64 (0.5)	56 (0.6)	48 (0.6)	51 (0.6)	52 (0.7)
Advantaged Urban	65 (1.9)	73 (1.7)	64 (1.6)	58 (2.0)	60 (2.5)	63 (2.3)
Disadvantaged Urban	43 (1.2)	50 (1.4)	42 (1.5)	38 (1.1)	35 (1.6)	38 (1.4)
Extreme Rural	56 (2.3)	65 (2.2)	57 (2.3)	49 (2.1)	52 (3.0)	50 (2.3)
Other	56 (0.5)	64 (0.6)	58 (0.6)	49 (0.5)	51 (0.7)	51 (0.7)
Public	56 (0.5)	64 (0.5)	56 (0.5)	48 (0.5)	50 (0.7)	50 (0.6)
Catholic and Other Private	62 (1.1)	70 (1.1)	62 (1.1)	54 (1.1)	56 (1.0)	58 (1.6)

(Table 5.54 continued on the next page)

Table 5.54 (continued)

Grade 12

GRADE 12	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Multiple-Choice						
Nation	56 (0.4)	64 (0.4)	60 (0.5)	57 (0.6)	54 (0.4)	48 (0.5)
Northeast	58 (0.6)	65 (0.6)	61 (0.8)	59 (0.9)	55 (0.8)	51 (0.9)
Southeast	54 (0.6)	63 (0.7)	55 (0.7)	54 (1.1)	52 (0.8)	45 (0.8)
Central	58 (0.9)	65 (0.8)	63 (1.2)	59 (1.0)	56 (0.7)	50 (1.2)
West	56 (0.8)	64 (0.7)	60 (1.2)	57 (1.2)	55 (0.9)	47 (1.1)
White	59 (0.4)	67 (0.4)	63 (0.6)	60 (0.5)	57 (0.5)	50 (0.6)
Black	46 (0.9)	54 (0.8)	48 (1.2)	45 (1.2)	43 (1.1)	39 (1.1)
Hispanic	49 (1.0)	56 (1.0)	51 (0.9)	48 (1.9)	50 (1.3)	40 (1.3)
Male	58 (0.5)	65 (0.5)	62 (0.7)	59 (0.8)	56 (0.6)	49 (0.7)
Female	55 (0.5)	63 (0.5)	58 (0.7)	55 (0.7)	53 (0.5)	48 (0.6)
Advantaged Urban	65 (1.1)	72 (0.8)	69 (1.5)	68 (1.8)	61 (1.0)	59 (1.4)
Disadvantaged Urban	48 (1.2)	56 (1.1)	50 (1.6)	49 (1.6)	48 (1.3)	40 (1.2)
Extreme Rural	53 (1.2)	62 (0.9)	57 (1.9)	53 (1.2)	53 (1.4)	44 (1.5)
Other	57 (0.4)	64 (0.4)	60 (0.6)	57 (0.7)	54 (0.6)	48 (0.6)
Public	56 (0.5)	63 (0.4)	59 (0.6)	56 (0.6)	54 (0.5)	47 (0.6)
Catholic and Other Private	63 (1.2)	69 (1.0)	67 (1.5)	65 (1.6)	59 (1.2)	56 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

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TABLE 5.55 | Average Percentage Correct for Multiple-Choice Questions

PUBLIC SCHOOLS	Grade 4 - 1992					
	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
NATION	49 (0.5)	50 (0.5)	50 (0.5)	53 (0.5)	45 (0.6)	41 (0.6)
Northeast	52 (1.1)	54 (1.2)	51 (1.2)	54 (1.4)	46 (1.6)	45 (1.2)
Southeast	45 (0.9)	46 (1.0)	46 (1.0)	49 (1.1)	42 (1.2)	37 (1.4)
Central	51 (1.2)	52 (1.1)	52 (1.5)	55 (1.2)	47 (1.5)	42 (1.2)
West	49 (0.8)	50 (1.1)	50 (1.0)	53 (0.6)	45 (1.0)	41 (0.9)
STATES						
Alabama	45 (0.7)	47 (0.8)	45 (0.8)	48 (0.7)	41 (0.9)	38 (0.9)
Arizona	47 (0.5)	49 (0.6)	48 (0.5)	50 (0.7)	42 (0.7)	41 (0.7)
Arkansas	46 (0.4)	47 (0.5)	47 (0.5)	50 (0.7)	40 (0.8)	38 (0.5)
California	45 (0.7)	47 (0.7)	46 (0.8)	49 (0.7)	40 (1.0)	38 (0.9)
Colorado	50 (0.5)	51 (0.5)	51 (0.7)	56 (0.6)	45 (0.8)	41 (0.6)
Connecticut	53 (0.6)	55 (0.6)	53 (0.7)	55 (0.7)	48 (1.0)	48 (0.8)
Delaware	49 (0.4)	51 (0.4)	49 (0.6)	52 (0.6)	45 (0.8)	42 (0.8)
Dist. Columbia	39 (0.3)	39 (0.4)	37 (0.5)	45 (0.5)	35 (0.7)	34 (0.6)
Florida	47 (0.7)	48 (0.7)	49 (0.9)	50 (0.7)	43 (0.8)	40 (0.9)
Georgia	49 (0.7)	49 (0.8)	49 (0.7)	53 (0.7)	46 (1.0)	43 (0.8)
Hawaii	48 (0.6)	49 (0.6)	48 (0.7)	51 (0.7)	42 (1.0)	42 (0.7)
Idaho	50 (0.5)	51 (0.5)	52 (0.6)	54 (0.8)	44 (0.8)	41 (0.6)
Indiana	50 (0.5)	51 (0.6)	53 (0.6)	53 (0.7)	46 (0.8)	42 (0.6)
Iowa	54 (0.6)	56 (0.6)	56 (0.8)	56 (0.7)	49 (0.8)	46 (0.8)
Kentucky	48 (0.5)	49 (0.6)	49 (0.6)	50 (0.6)	43 (0.8)	41 (0.6)
Louisiana	43 (0.6)	45 (0.6)	43 (0.8)	46 (0.8)	39 (0.7)	38 (0.7)
Maine	56 (0.6)	56 (0.6)	58 (0.8)	58 (0.8)	53 (0.9)	48 (0.7)
Maryland	49 (0.6)	50 (0.6)	49 (0.8)	53 (0.7)	44 (0.9)	41 (0.7)
Massachusetts	53 (0.6)	54 (0.7)	54 (0.8)	55 (0.8)	49 (1.0)	46 (0.9)
Michigan	50 (0.8)	51 (0.8)	52 (0.9)	54 (0.8)	45 (0.8)	43 (0.9)
Minnesota	54 (0.4)	56 (0.5)	56 (0.6)	57 (0.7)	49 (0.7)	46 (0.6)
Mississippi	42 (0.5)	44 (0.6)	42 (0.6)	47 (0.5)	37 (0.9)	35 (0.7)
Missouri	51 (0.6)	52 (0.6)	52 (0.8)	55 (0.7)	46 (0.8)	43 (0.7)
Nebraska	53 (0.7)	54 (0.7)	54 (0.8)	56 (0.8)	47 (0.8)	44 (1.0)
New Hampshire	54 (0.7)	55 (0.7)	56 (0.8)	57 (0.8)	49 (0.9)	45 (1.0)
New Jersey	54 (0.7)	56 (0.7)	54 (1.0)	56 (0.7)	49 (1.0)	47 (0.7)
New Mexico	46 (0.7)	47 (0.8)	47 (0.9)	51 (0.8)	41 (0.9)	39 (1.1)
New York	50 (0.5)	51 (0.6)	49 (0.7)	53 (0.6)	50 (0.8)	42 (0.8)
North Carolina	47 (0.5)	48 (0.6)	47 (0.6)	51 (0.6)	43 (0.8)	40 (0.6)
North Dakota	54 (0.6)	55 (0.6)	56 (0.7)	56 (0.8)	49 (0.8)	46 (0.8)
Ohio	49 (0.6)	51 (0.6)	49 (0.8)	53 (0.7)	44 (0.9)	42 (0.8)
Oklahoma	50 (0.5)	51 (0.6)	51 (0.7)	52 (0.7)	45 (0.9)	43 (0.7)
Pennsylvania	52 (0.7)	54 (0.7)	54 (0.9)	54 (0.8)	47 (0.8)	45 (0.9)
Rhode Island	48 (0.7)	50 (0.7)	49 (0.8)	50 (0.7)	42 (0.9)	41 (0.8)
South Carolina	47 (0.6)	48 (0.6)	48 (0.7)	51 (0.7)	42 (0.8)	39 (0.8)
Tennessee	46 (0.6)	48 (0.6)	45 (0.7)	50 (0.7)	42 (1.0)	39 (0.6)
Texas	50 (0.6)	51 (0.6)	50 (0.7)	54 (0.8)	42 (0.9)	44 (0.8)
Utah	52 (0.5)	53 (0.6)	54 (0.6)	55 (0.7)	48 (0.8)	44 (0.8)
Virginia	50 (0.6)	52 (0.7)	51 (0.7)	54 (0.6)	47 (1.0)	42 (0.9)
West Virginia	48 (0.5)	48 (0.6)	50 (0.6)	51 (0.6)	42 (0.7)	39 (0.8)
Wisconsin	54 (0.6)	56 (0.7)	57 (0.7)	56 (0.7)	49 (0.8)	46 (0.7)
Wyoming	52 (0.5)	53 (0.5)	53 (0.6)	55 (0.6)	46 (0.7)	43 (0.7)
TERRITORY						
Guam	39 (0.3)	40 (0.4)	38 (0.6)	45 (0.7)	34 (0.8)	35 (0.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 5.55 | Average Percentage Correct for Multiple-Choice Questions (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
NATION	56 (0.5)	64 (0.5)	57 (0.5)	48 (0.5)	50 (0.7)	50 (0.6)
Northeast	56 (1.4)	63 (1.2)	57 (1.4)	50 (1.5)	51 (2.0)	52 (1.5)
Southeast	52 (0.7)	60 (0.8)	52 (0.8)	44 (0.5)	46 (1.0)	46 (0.9)
Central	59 (1.0)	67 (1.0)	60 (1.2)	51 (1.0)	53 (1.1)	53 (1.7)
West	56 (1.1)	64 (1.2)	57 (1.2)	48 (1.0)	50 (1.5)	51 (1.2)
STATES						
Alabama	51 (0.7)	59 (0.7)	51 (0.7)	42 (0.7)	44 (0.9)	46 (0.8)
Arizona	56 (0.5)	64 (0.6)	57 (0.6)	48 (0.6)	50 (0.6)	50 (0.7)
Arkansas	52 (0.5)	61 (0.6)	52 (0.7)	45 (0.6)	46 (0.6)	46 (0.7)
California	54 (0.8)	62 (0.8)	55 (0.8)	48 (0.9)	47 (1.0)	49 (0.9)
Colorado	58 (0.5)	66 (0.5)	60 (0.7)	52 (0.6)	54 (0.7)	53 (0.6)
Connecticut	60 (0.5)	68 (0.6)	61 (0.6)	52 (0.6)	54 (0.6)	54 (0.7)
Delaware	54 (0.5)	63 (0.6)	55 (0.8)	47 (0.6)	49 (0.7)	49 (0.7)
Dist. Columbia	44 (0.4)	52 (0.4)	43 (0.7)	39 (0.7)	35 (0.7)	40 (0.4)
Florida	53 (0.7)	61 (0.8)	53 (0.7)	46 (0.7)	48 (0.9)	48 (0.8)
Georgia	54 (0.5)	62 (0.6)	53 (0.7)	46 (0.6)	47 (0.7)	48 (0.7)
Hawaii	52 (0.5)	60 (0.6)	53 (0.5)	47 (0.6)	44 (0.6)	48 (0.7)
Idaho	60 (0.4)	68 (0.5)	61 (0.6)	53 (0.5)	54 (0.5)	55 (0.6)
Indiana	58 (0.5)	65 (0.6)	59 (0.6)	51 (0.7)	53 (0.6)	52 (0.7)
Iowa	64 (0.6)	72 (0.6)	66 (0.6)	57 (0.7)	59 (0.6)	58 (0.7)
Kentucky	54 (0.5)	62 (0.6)	55 (0.6)	47 (0.5)	49 (0.7)	49 (0.7)
Louisiana	49 (0.7)	58 (0.8)	49 (0.8)	42 (0.8)	43 (0.9)	44 (0.8)
Maine	61 (0.5)	69 (0.6)	63 (0.8)	54 (0.5)	58 (0.6)	54 (0.7)
Maryland	56 (0.6)	64 (0.7)	56 (0.7)	49 (0.7)	52 (0.8)	51 (0.9)
Massachusetts	59 (0.5)	68 (0.6)	59 (0.5)	51 (0.7)	54 (0.7)	54 (0.7)
Michigan	57 (0.6)	65 (0.6)	57 (0.7)	50 (0.8)	51 (0.7)	52 (0.9)
Minnesota	64 (0.5)	71 (0.5)	64 (0.6)	57 (0.5)	59 (0.7)	59 (0.7)
Mississippi	48 (0.5)	58 (0.5)	48 (0.6)	39 (0.6)	42 (0.7)	43 (0.6)
Missouri	58 (0.6)	66 (0.6)	59 (0.6)	52 (0.7)	53 (0.8)	52 (0.7)
Nebraska	62 (0.6)	69 (0.6)	62 (0.6)	55 (0.8)	56 (0.7)	56 (0.8)
New Hampshire	61 (0.5)	69 (0.5)	62 (0.6)	54 (0.7)	56 (0.6)	54 (0.7)
New Jersey	59 (0.7)	68 (0.7)	58 (0.9)	52 (0.8)	52 (0.9)	55 (0.9)
New Mexico	53 (0.5)	61 (0.6)	54 (0.6)	46 (0.6)	47 (0.5)	47 (0.6)
New York	57 (0.9)	65 (0.9)	56 (0.8)	50 (1.1)	53 (1.1)	52 (1.0)
North Carolina	53 (0.6)	61 (0.6)	52 (0.7)	46 (0.6)	47 (0.7)	48 (0.7)
North Dakota	64 (0.5)	73 (0.5)	65 (0.7)	57 (0.7)	60 (0.7)	58 (0.7)
Ohio	57 (0.7)	65 (0.7)	58 (1.0)	49 (0.7)	52 (0.7)	51 (0.8)
Oklahoma	56 (0.5)	64 (0.6)	58 (0.7)	48 (0.7)	51 (0.7)	52 (0.6)
Pennsylvania	58 (0.7)	66 (0.8)	59 (0.7)	51 (0.8)	53 (0.8)	53 (0.7)
Rhode Island	56 (0.4)	64 (0.5)	56 (0.7)	48 (0.6)	50 (0.7)	50 (0.6)
South Carolina	54 (0.4)	62 (0.5)	54 (0.6)	48 (0.6)	47 (0.6)	49 (0.6)
Tennessee	53 (0.7)	62 (0.7)	53 (0.7)	45 (0.7)	48 (0.8)	47 (0.9)
Texas	56 (0.6)	63 (0.7)	55 (0.7)	50 (0.7)	50 (0.8)	52 (0.7)
Utah	60 (0.4)	67 (0.5)	61 (0.4)	52 (0.6)	56 (0.6)	54 (0.7)
Virginia	57 (0.6)	66 (0.6)	57 (0.7)	49 (0.7)	51 (0.7)	52 (0.7)
West Virginia	52 (0.5)	60 (0.6)	54 (0.6)	45 (0.6)	47 (0.6)	46 (0.7)
Wisconsin	62 (0.7)	70 (0.7)	63 (0.7)	55 (0.7)	57 (0.9)	56 (0.8)
Wyoming	60 (0.5)	68 (0.6)	61 (0.5)	54 (0.6)	54 (0.6)	53 (0.6)
TERRITORIES						
Guam	44 (0.5)	52 (0.6)	44 (0.7)	40 (0.7)	34 (0.7)	41 (0.6)
Virgin Islands	38 (0.3)	46 (0.5)	39 (0.6)	33 (0.5)	29 (0.6)	34 (0.6)

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TABLE 5.56 Average Percentage Correct for Both Regular Constructed-Response and Multiple-Choice Questions

Grade 4

GRADE 4	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Both Regular-Constructed Response and Multiple-Choice						
Nation	47 (0.4)	49 (0.4)	47 (0.5)	45 (0.5)	45 (0.5)	42 (0.5)
Northeast	50 (1.2)	52 (1.1)	49 (1.2)	47 (1.5)	48 (1.3)	46 (1.3)
Southeast	42 (0.9)	44 (0.9)	43 (1.0)	41 (0.8)	41 (1.3)	37 (1.2)
Central	49 (1.0)	51 (0.9)	50 (1.3)	47 (0.9)	48 (1.1)	44 (1.1)
West	46 (0.9)	49 (0.9)	46 (1.0)	46 (0.7)	45 (1.0)	42 (1.0)
White	51 (0.5)	53 (0.5)	52 (0.6)	49 (0.6)	50 (0.6)	46 (0.6)
Black	33 (0.6)	37 (0.7)	31 (0.8)	31 (0.6)	28 (0.9)	28 (0.9)
Hispanic	38 (0.6)	40 (0.8)	37 (0.8)	38 (0.7)	35 (1.1)	33 (0.9)
Male	48 (0.4)	50 (0.5)	49 (0.6)	46 (0.5)	46 (0.6)	42 (0.6)
Female	46 (0.6)	48 (0.6)	45 (0.6)	44 (0.6)	44 (0.7)	42 (0.7)
Advantaged Urban	57 (1.3)	60 (1.4)	58 (1.5)	53 (1.2)	58 (1.8)	53 (1.5)
Disadvantaged Urban	34 (1.2)	38 (1.3)	32 (1.4)	33 (1.2)	30 (1.1)	28 (1.7)
Extreme Rural	46 (2.0)	48 (1.9)	46 (2.5)	44 (2.3)	44 (2.1)	40 (1.9)
Other	47 (0.5)	48 (0.5)	47 (0.5)	46 (0.6)	45 (0.6)	42 (0.6)
Public	46 (0.5)	48 (0.5)	46 (0.6)	45 (0.5)	45 (0.6)	41 (0.5)
Catholic and Other Private	51 (0.8)	53 (0.8)	51 (0.8)	48 (0.9)	50 (1.0)	46 (1.2)

Grade 8

GRADE 8	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Both Regular-Constructed Response and Multiple-Choice						
Nation	55 (0.4)	63 (0.5)	52 (0.5)	53 (0.5)	49 (0.5)	52 (0.6)
Northeast	56 (1.3)	64 (1.2)	52 (1.2)	54 (1.4)	50 (1.6)	53 (1.8)
Southeast	52 (0.7)	60 (0.8)	48 (0.9)	49 (0.7)	45 (0.9)	48 (0.8)
Central	58 (0.9)	67 (0.9)	55 (1.0)	56 (0.9)	52 (0.9)	55 (1.4)
West	55 (1.0)	63 (1.1)	52 (1.2)	53 (1.0)	49 (1.1)	52 (1.1)
White	60 (0.5)	67 (0.5)	57 (0.6)	58 (0.5)	54 (0.6)	57 (0.7)
Black	40 (0.6)	49 (0.7)	36 (0.7)	37 (1.0)	34 (0.8)	38 (0.8)
Hispanic	45 (0.7)	52 (0.9)	43 (0.8)	43 (0.8)	37 (0.8)	41 (1.0)
Male	55 (0.6)	63 (0.6)	53 (0.7)	53 (0.6)	49 (0.7)	51 (0.7)
Female	55 (0.5)	63 (0.5)	51 (0.5)	53 (0.5)	49 (0.6)	53 (0.7)
Advantaged Urban	65 (1.8)	72 (1.8)	60 (1.4)	63 (1.7)	59 (2.3)	63 (2.4)
Disadvantaged Urban	41 (1.3)	49 (1.4)	38 (1.3)	39 (1.6)	34 (1.4)	38 (1.5)
Extreme Rural	55 (2.4)	64 (2.2)	52 (2.4)	52 (2.9)	49 (2.7)	52 (2.3)
Other	56 (0.6)	63 (0.6)	53 (0.7)	53 (0.6)	49 (0.6)	52 (0.7)
Public	54 (0.5)	62 (0.5)	52 (0.5)	52 (0.5)	48 (0.6)	51 (0.6)
Catholic and Other Private	61 (1.1)	69 (1.1)	57 (1.0)	58 (1.2)	55 (1.1)	58 (1.6)

(Table 5.56 continued on next page)

Table 5.56 continued

Grade 12

GRADE 12	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
Both Regular Constructed-Response and Multiple-Choice						
Nation	51 (0.4)	59 (0.4)	48 (0.5)	52 (0.5)	51 (0.4)	45 (0.5)
Northeast	53 (0.7)	60 (0.6)	49 (0.8)	53 (0.8)	52 (0.9)	47 (0.9)
Southeast	48 (0.6)	57 (0.8)	43 (0.6)	48 (0.9)	48 (0.7)	42 (0.8)
Central	53 (1.0)	60 (0.9)	50 (1.2)	54 (1.0)	53 (0.8)	47 (1.4)
West	51 (0.9)	58 (0.8)	48 (1.3)	51 (1.0)	51 (0.8)	44 (1.0)
White	54 (0.5)	62 (0.4)	51 (0.6)	55 (0.5)	54 (0.5)	48 (0.6)
Black	39 (0.8)	49 (0.9)	35 (0.9)	38 (1.0)	39 (1.0)	34 (1.0)
Hispanic	43 (0.9)	51 (1.1)	39 (0.8)	44 (1.5)	45 (1.2)	36 (1.0)
Male	52 (0.5)	59 (0.6)	50 (0.7)	54 (0.7)	52 (0.5)	45 (0.7)
Female	50 (0.5)	59 (0.5)	46 (0.6)	50 (0.6)	50 (0.5)	44 (0.6)
Advantaged Urban	60 (1.3)	66 (1.1)	57 (1.6)	61 (1.8)	58 (1.3)	55 (1.5)
Disadvantaged Urban	42 (1.1)	50 (0.9)	38 (1.4)	42 (1.4)	43 (1.2)	36 (1.2)
Extreme Rural	48 (1.2)	57 (1.0)	45 (2.0)	47 (1.2)	49 (1.5)	40 (1.5)
Other	51 (0.5)	59 (0.4)	48 (0.5)	52 (0.6)	52 (0.5)	45 (0.6)
Public	50 (0.5)	58 (0.5)	47 (0.6)	50 (0.6)	50 (0.5)	44 (0.6)
Catholic and Other Private	58 (1.3)	65 (1.1)	55 (1.5)	59 (1.5)	57 (1.2)	53 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

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TABLE 5.57 | Average Percentage Correct for Both Regular Constructed-Response and Multiple-Choice Mathematics Questions

PUBLIC SCHOOLS	Grade 4 - 1992					
	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
NATION	46 (0.5)	48 (0.5)	46 (0.6)	45 (0.5)	45 (0.6)	41 (0.5)
Northeast	49 (1.2)	52 (1.2)	49 (1.3)	47 (1.7)	47 (1.5)	46 (1.4)
Southeast	42 (1.1)	44 (1.1)	42 (1.1)	40 (0.9)	40 (1.6)	36 (1.3)
Central	48 (1.1)	51 (1.1)	49 (1.6)	47 (1.1)	47 (1.3)	43 (1.2)
West	46 (0.9)	48 (1.0)	46 (1.0)	45 (0.8)	44 (1.1)	41 (1.0)
STATES						
Alabama	41 (0.8)	44 (0.9)	41 (0.9)	38 (0.7)	39 (1.0)	36 (1.0)
Arizona	45 (0.5)	47 (0.6)	45 (0.6)	43 (0.6)	42 (0.7)	41 (0.7)
Arkansas	42 (0.4)	45 (0.4)	42 (0.6)	40 (0.6)	40 (0.7)	36 (0.5)
California	42 (0.7)	45 (0.7)	42 (0.8)	42 (0.8)	39 (1.0)	38 (0.8)
Colorado	48 (0.6)	49 (0.6)	48 (0.7)	49 (0.6)	46 (0.8)	42 (0.7)
Connecticut	51 (0.6)	53 (0.6)	51 (0.6)	49 (0.7)	50 (1.0)	48 (0.8)
Delaware	46 (0.4)	49 (0.5)	45 (0.5)	44 (0.4)	45 (0.8)	42 (0.7)
Dist. Columbia	35 (0.3)	38 (0.4)	32 (0.4)	35 (0.4)	30 (0.5)	31 (0.5)
Florida	44 (0.8)	46 (0.8)	45 (1.0)	42 (0.8)	43 (1.0)	40 (1.0)
Georgia	45 (0.7)	47 (0.7)	45 (0.7)	43 (0.7)	45 (1.0)	42 (1.0)
Hawaii	45 (0.6)	48 (0.6)	44 (0.7)	44 (0.7)	41 (0.9)	41 (0.7)
Idaho	48 (0.5)	49 (0.5)	49 (0.6)	47 (0.6)	45 (0.8)	42 (0.7)
Indiana	47 (0.5)	49 (0.6)	49 (0.6)	45 (0.7)	46 (0.8)	43 (0.6)
Iowa	52 (0.6)	55 (0.6)	53 (0.7)	50 (0.6)	52 (0.8)	47 (0.9)
Kentucky	44 (0.5)	47 (0.6)	44 (0.6)	41 (0.6)	43 (0.8)	40 (0.7)
Louisiana	40 (0.6)	42 (0.6)	39 (0.8)	37 (0.7)	37 (0.8)	35 (0.7)
Maine	54 (0.6)	54 (0.6)	55 (0.8)	54 (0.7)	54 (0.9)	49 (0.7)
Maryland	46 (0.6)	49 (0.6)	46 (0.7)	45 (0.7)	45 (0.9)	41 (0.7)
Massachusetts	51 (0.7)	53 (0.7)	50 (0.7)	49 (0.8)	50 (1.1)	46 (0.9)
Michigan	47 (0.9)	49 (0.9)	49 (0.9)	46 (0.9)	45 (0.9)	43 (1.0)
Minnesota	52 (0.5)	54 (0.5)	53 (0.6)	51 (0.7)	51 (0.8)	47 (0.6)
Mississippi	38 (0.5)	42 (0.6)	38 (0.6)	35 (0.5)	34 (0.7)	32 (0.6)
Missouri	48 (0.6)	50 (0.6)	49 (0.8)	47 (0.7)	47 (0.9)	43 (0.8)
Nebraska	50 (0.7)	52 (0.7)	51 (0.9)	50 (0.7)	49 (1.0)	45 (1.0)
New Hampshire	52 (0.7)	54 (0.7)	53 (0.8)	51 (0.9)	51 (0.9)	48 (0.9)
New Jersey	51 (0.8)	54 (0.7)	51 (1.0)	48 (0.8)	49 (1.0)	48 (0.9)
New Mexico	43 (0.8)	45 (0.8)	43 (0.9)	44 (1.0)	41 (0.9)	38 (1.1)
New York	47 (0.6)	49 (0.5)	46 (0.8)	44 (0.7)	48 (0.9)	42 (0.8)
North Carolina	44 (0.5)	46 (0.6)	43 (0.6)	42 (0.7)	42 (0.7)	39 (0.6)
North Dakota	52 (0.5)	53 (0.6)	53 (0.7)	49 (0.7)	52 (0.7)	47 (0.7)
Ohio	46 (0.6)	49 (0.6)	46 (0.8)	45 (0.7)	45 (0.9)	42 (0.7)
Oklahoma	47 (0.6)	49 (0.6)	47 (0.7)	44 (0.8)	46 (0.9)	43 (0.7)
Pennsylvania	50 (0.7)	52 (0.7)	50 (1.0)	46 (0.7)	48 (1.0)	45 (0.9)
Rhode Island	45 (0.7)	48 (0.8)	45 (0.8)	42 (0.8)	42 (0.9)	40 (0.9)
South Carolina	43 (0.6)	46 (0.6)	44 (0.7)	42 (0.7)	41 (0.9)	38 (0.8)
Tennessee	42 (0.6)	45 (0.6)	41 (0.7)	39 (0.6)	41 (1.0)	38 (0.7)
Texas	46 (0.7)	49 (0.7)	46 (0.7)	45 (0.8)	43 (0.9)	43 (0.9)
Utah	49 (0.5)	51 (0.6)	51 (0.6)	48 (0.6)	47 (0.7)	44 (0.7)
Virginia	48 (0.7)	50 (0.7)	47 (0.8)	46 (0.8)	48 (1.0)	42 (0.9)
West Virginia	44 (0.5)	46 (0.6)	46 (0.6)	43 (0.6)	42 (0.7)	39 (0.8)
Wisconsin	52 (0.6)	54 (0.7)	53 (0.7)	49 (0.7)	52 (0.8)	47 (0.8)
Wyoming	50 (0.5)	52 (0.5)	50 (0.6)	49 (0.6)	48 (0.7)	45 (0.6)
TERRITORY						
Guam	35 (0.3)	38 (0.4)	33 (0.5)	36 (0.5)	30 (0.5)	32 (0.6)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.57 | Average Percentage Correct for Both Regular Constructed-Response and Multiple-Choice Mathematics Questions (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Overall	Numbers and Operations	Measurement	Geometry	Data Analysis, Statistics, and Probability	Algebra and Functions
NATION	54 (0.5)	62 (0.5)	51 (0.5)	52 (0.5)	48 (0.6)	51 (0.6)
Northeast	55 (1.5)	62 (1.4)	52 (1.3)	54 (1.6)	49 (1.9)	52 (2.0)
Southeast	50 (0.6)	58 (0.7)	47 (0.9)	47 (0.6)	44 (0.8)	47 (0.8)
Central	58 (1.1)	66 (1.1)	55 (1.1)	56 (1.0)	51 (1.0)	55 (1.6)
West	55 (1.0)	62 (1.1)	52 (1.2)	52 (1.0)	48 (1.2)	52 (1.2)
STATES						
Alabama	49 (0.7)	57 (0.7)	46 (0.8)	46 (0.8)	43 (0.8)	46 (0.8)
Arizona	55 (0.5)	63 (0.6)	52 (0.7)	53 (0.6)	48 (0.6)	51 (0.7)
Arkansas	51 (0.6)	59 (0.6)	47 (0.5)	48 (0.7)	44 (0.6)	47 (0.8)
California	53 (0.8)	60 (0.9)	51 (0.8)	53 (0.9)	46 (0.9)	49 (0.9)
Colorado	58 (0.5)	65 (0.5)	56 (0.6)	57 (0.6)	52 (0.6)	55 (0.6)
Connecticut	59 (0.6)	67 (0.6)	57 (0.6)	57 (0.6)	53 (0.6)	55 (0.7)
Delaware	54 (0.5)	62 (0.6)	50 (0.6)	52 (0.8)	48 (0.6)	50 (0.7)
Dist. Columbia	41 (0.4)	50 (0.4)	38 (0.6)	39 (0.7)	33 (0.5)	39 (0.5)
Florida	52 (0.7)	60 (0.8)	49 (0.7)	50 (0.7)	46 (0.8)	49 (0.8)
Georgia	52 (0.6)	61 (0.6)	48 (0.7)	50 (0.7)	46 (0.7)	49 (0.7)
Hawaii	51 (0.4)	59 (0.6)	48 (0.5)	51 (0.5)	42 (0.5)	48 (0.6)
Idaho	60 (0.4)	67 (0.4)	57 (0.6)	59 (0.4)	52 (0.5)	57 (0.6)
Indiana	57 (0.5)	64 (0.6)	54 (0.6)	56 (0.6)	52 (0.6)	53 (0.7)
Iowa	64 (0.5)	71 (0.6)	61 (0.5)	62 (0.7)	57 (0.6)	60 (0.7)
Kentucky	53 (0.5)	61 (0.5)	50 (0.6)	51 (0.6)	47 (0.7)	49 (0.8)
Louisiana	48 (0.8)	56 (0.8)	44 (0.8)	45 (0.9)	41 (0.9)	44 (0.8)
Maine	61 (0.5)	68 (0.6)	59 (0.6)	60 (0.5)	56 (0.6)	56 (0.6)
Maryland	55 (0.6)	63 (0.7)	51 (0.7)	53 (0.7)	50 (0.6)	52 (0.8)
Massachusetts	59 (0.5)	67 (0.6)	55 (0.5)	56 (0.7)	52 (0.6)	56 (0.7)
Michigan	56 (0.7)	64 (0.6)	53 (0.7)	54 (0.8)	50 (0.7)	53 (0.9)
Minnesota	63 (0.4)	70 (0.5)	60 (0.6)	62 (0.5)	57 (0.6)	61 (0.7)
Mississippi	46 (0.5)	56 (0.5)	43 (0.6)	42 (0.7)	40 (0.7)	42 (0.7)
Missouri	58 (0.6)	65 (0.6)	55 (0.6)	57 (0.7)	52 (0.7)	54 (0.7)
Nebraska	61 (0.6)	68 (0.6)	58 (0.6)	60 (0.7)	54 (0.6)	58 (0.7)
New Hampshire	61 (0.5)	68 (0.5)	58 (0.5)	60 (0.6)	55 (0.5)	57 (0.6)
New Jersey	58 (0.7)	67 (0.8)	54 (0.8)	56 (0.8)	52 (0.8)	56 (0.9)
New Mexico	52 (0.5)	60 (0.6)	49 (0.6)	50 (0.6)	45 (0.5)	48 (0.6)
New York	56 (0.9)	64 (0.9)	52 (0.9)	54 (1.1)	51 (1.0)	53 (1.1)
North Carolina	52 (0.6)	59 (0.6)	48 (0.6)	50 (0.6)	45 (0.6)	49 (0.7)
North Dakota	64 (0.5)	72 (0.5)	61 (0.6)	62 (0.7)	58 (0.6)	60 (0.7)
Ohio	56 (0.7)	64 (0.7)	53 (0.9)	54 (0.8)	50 (0.7)	53 (0.8)
Oklahoma	56 (0.5)	64 (0.6)	53 (0.5)	53 (0.6)	50 (0.6)	53 (0.6)
Pennsylvania	58 (0.7)	65 (0.8)	55 (0.7)	56 (0.8)	51 (0.8)	55 (0.8)
Rhode Island	55 (0.3)	63 (0.4)	52 (0.5)	53 (0.5)	49 (0.4)	52 (0.6)
South Carolina	53 (0.5)	61 (0.5)	49 (0.5)	51 (0.6)	46 (0.6)	49 (0.6)
Tennessee	52 (0.7)	61 (0.7)	48 (0.7)	49 (0.7)	46 (0.7)	48 (0.9)
Texas	55 (0.6)	61 (0.7)	51 (0.6)	54 (0.7)	48 (0.7)	53 (0.7)
Utah	59 (0.4)	67 (0.4)	56 (0.4)	58 (0.5)	54 (0.5)	56 (0.6)
Virginia	56 (0.6)	65 (0.6)	52 (0.7)	54 (0.7)	49 (0.6)	53 (0.7)
West Virginia	52 (0.5)	59 (0.6)	49 (0.6)	49 (0.6)	46 (0.5)	47 (0.7)
Wisconsin	61 (0.7)	69 (0.7)	58 (0.7)	60 (0.7)	55 (0.9)	57 (0.8)
Wyoming	59 (0.4)	67 (0.5)	57 (0.4)	59 (0.5)	53 (0.5)	55 (0.6)
TERRITORIES						
Guam	42 (0.5)	49 (0.6)	40 (0.6)	42 (0.7)	32 (0.6)	40 (0.6)
Virgin Islands	36 (0.3)	44 (0.4)	33 (0.5)	33 (0.5)	27 (0.5)	33 (0.6)

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TABLE 5.58 National Average Percentages by Teachers' Reports on the Instructional Emphasis Placed on Reasoning and Communicating

Grades 4 and 8

	Developing Reasoning Ability to Solve Unique Problems			Learning How to Communicate Ideas in Mathematics Effectively		
	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis	Heavy Emphasis	Moderate Emphasis	Little or No
GRADE 4						
Satisfactory or Better on Extended-Response	17 (1.0)	16 (0.9)	14 (2.5)	17 (1.6)	16 (0.9)	15 (1.7)
Correct on Regular Constructed Response	43 (1.0)	41 (0.8)	40 (1.8)	43 (1.3)	41 (0.7)	42 (1.2)
Correct on Multiple-Choice	50 (0.8)	49 (0.6)	48 (1.6)	49 (1.0)	49 (0.5)	50 (1.1)
GRADE 8						
Satisfactory on Better on Extended-Response	10 (0.8)	7 (0.6)	2 (0.9)	10 (0.9)	8 (0.7)	6 (1.4)
Correct on Regular Constructed Response	57 (0.8)	52 (0.8)	44 (2.3)	56 (0.9)	53 (0.8)	53 (2.1)
Correct on Multiple-Choice	60 (0.7)	54 (0.7)	47 (1.7)	59 (0.7)	56 (0.6)	56 (1.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

TABLE 5.59 Average Percentages for Difference Question types by Students' Reports on High-School Algebra Courses

Grade 12

GRADE 12	Not Studied	Prealgebra	First-Year Algebra	Second-Year Algebra	Precalculus	Calculus
Satisfactory or Better on Extended-Response	4(1.1)	3(0.8)	7(0.7)	8(0.6)	13(1.3)	23(1.9)
Correct on Regular Constructed-Response	22(1.3)	26(1.2)	33(1.0)	44(0.7)	54(0.9)	61(1.7)
Correct on Multiple-Choice	38(1.1)	44 (0.9)	50(0.8)	60(0.5)	69(0.7)	74(1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

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TABLE 5.60 | Average Percentage Satisfactory or Better Responses to Extended-Response Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating

PUBLIC SCHOOLS	Grade 4 - 1992					
	Developing Reasoning Ability to Solve Unique Problems			Learning How to Communicate Ideas		
	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis
NATION	16 (1.2)	16 (1.1)	13 (2.6)	16 (1.7)	16 (1.0)	15 (2.0)
Northeast	21 (2.3)	18 (2.3)	13 (6.0)	22 (2.4)	19 (2.8)	10 (4.8)
Southeast	13 (2.7)	13 (2.4)	4 (1.4)	12 (3.2)	13 (2.4)	7 (3.2)
Central	15 (2.1)	19 (2.6)	18 (4.7)	15 (4.2)	19 (1.8)	16 (3.2)
West	17 (2.1)	14 (1.5)	16 (6.6)	18 (3.6)	13 (1.6)	19 (3.0)
STATES						
Alabama	12 (1.3)	11 (1.2)	9 (3.3)	11 (1.2)	12 (1.3)	11 (2.5)
Arizona	15 (0.9)	12 (1.1)	15 (2.4)	14 (1.1)	13 (1.1)	15 (2.6)
Arkansas	11 (1.1)	11 (0.8)	11 (2.9)	9 (1.3)	11 (0.7)	12 (2.2)
California	13 (1.0)	11 (1.1)	4 (2.2)	12 (1.3)	11 (0.9)	10 (2.9)
Colorado	16 (1.0)	16 (1.3)	17 (4.5)	17 (1.1)	15 (1.2)	17 (2.5)
Connecticut	25 (1.5)	20 (1.5)	13 (5.6)	24 (1.7)	23 (1.5)	17 (2.4)
Delaware	16 (1.1)	14 (1.3)	14 (2.0)	18 (1.0)	13 (1.3)	15 (2.0)
Dist. Columbia	9 (1.2)	5 (1.0)	4 (2.6)	8 (1.0)	7 (1.4)	3 (1.8)
Florida	14 (1.2)	10 (1.1)	7 (2.6)	13 (1.1)	12 (1.2)	8 (2.4)
Georgia	17 (1.2)	13 (1.2)	14 (4.1)	15 (1.1)	15 (1.3)	14 (3.5)
Hawaii	14 (1.4)	11 (1.2)	15 (3.4)	13 (1.6)	13 (1.2)	10 (2.3)
Idaho	16 (1.2)	16 (1.3)	15 (4.2)	17 (1.6)	15 (1.1)	16 (1.8)
Indiana	18 (1.5)	14 (1.4)	10 (2.2)	14 (1.5)	16 (1.6)	16 (2.4)
Iowa	25 (1.3)	22 (1.5)	16 (4.2)	22 (1.9)	24 (1.2)	20 (2.4)
Kentucky	15 (1.2)	13 (1.5)	8 (3.0)	15 (1.3)	14 (1.5)	13 (2.9)
Louisiana	9 (0.9)	7 (1.1)	6 (1.7)	9 (1.0)	8 (1.1)	4 (2.5)
Maine	23 (1.8)	22 (1.6)	13 (5.0)	23 (2.0)	23 (1.7)	18 (2.4)
Maryland	18 (1.4)	16 (1.7)	16 (7.9)	17 (1.4)	19 (1.3)	19 (4.3)
Massachusetts	19 (1.8)	19 (1.4)	12 (2.9)	21 (2.2)	18 (1.6)	16 (1.8)
Michigan	15 (1.1)	17 (1.6)	11 (6.6)	15 (1.6)	17 (1.3)	11 (2.3)
Minnesota	20 (1.1)	19 (1.6)	19 (3.5)	18 (1.7)	20 (1.3)	22 (2.8)
Mississippi	8 (1.1)	7 (1.0)	6 (3.0)	6 (0.9)	9 (1.1)	8 (2.7)
Missouri	19 (1.4)	17 (1.3)	16 (2.5)	18 (1.6)	18 (1.3)	18 (2.3)
Nebraska	19 (1.5)	18 (1.3)	15 (5.2)	17 (1.6)	20 (1.4)	15 (2.4)
New Hampshire	23 (1.4)	20 (1.4)	19 (7.6)	25 (2.0)	19 (1.4)	19 (2.6)
New Jersey	20 (1.4)	17 (1.7)	15 (3.4)	20 (1.3)	18 (1.7)	14 (3.3)
New Mexico	14 (1.6)	11 (1.1)	11 (2.7)	12 (1.7)	13 (1.1)	10 (2.7)
New York	14 (1.3)	15 (1.5)	17 (4.6)	14 (1.6)	14 (1.4)	21 (2.7)
North Carolina	14 (1.0)	13 (1.2)	9 (2.3)	13 (1.4)	13 (0.9)	15 (2.4)
North Dakota	22 (1.5)	20 (1.1)	10 (3.4)	21 (1.8)	20 (1.1)	18 (2.8)
Ohio	19 (1.2)	16 (1.4)	9 (2.6)	18 (1.5)	17 (1.2)	10 (2.3)
Oklahoma	16 (1.1)	16 (1.3)	11 (3.0)	16 (1.4)	16 (1.3)	15 (2.5)
Pennsylvania	21 (1.3)	18 (1.4)	11 (3.5)	21 (1.6)	18 (1.2)	16 (3.2)
Rhode Island	17 (1.6)	14 (1.5)	14 (3.5)	15 (2.1)	16 (1.6)	14 (2.0)
South Carolina	12 (0.8)	11 (1.1)	9 (2.8)	13 (1.0)	10 (0.9)	10 (2.5)
Tennessee	14 (1.3)	13 (1.1)	10 (2.6)	13 (1.1)	14 (1.0)	13 (2.4)
Texas	17 (1.3)	13 (1.3)	17 (6.4)	16 (1.2)	16 (1.6)	8 (2.1)
Utah	16 (1.1)	16 (1.2)	13 (1.9)	17 (1.4)	15 (1.1)	17 (1.4)
Virginia	19 (1.6)	16 (1.5)	15 (2.7)	15 (1.4)	20 (1.7)	15 (2.2)
West Virginia	14 (1.2)	11 (0.9)	11 (2.3)	13 (1.3)	11 (0.9)	13 (1.7)
Wisconsin	23 (1.6)	18 (1.6)	20 (4.0)	23 (1.7)	19 (1.3)	21 (2.5)
Wyoming	19 (1.1)	18 (1.2)	10 (2.6)	20 (1.6)	18 (1.3)	16 (1.8)
TERRITORY						
Guam	6 (0.8)	8 (0.9)	4 (1.1)	7 (0.7)	6 (0.9)	7 (1.4)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.60

Average Percentage Satisfactory or Better Responses to Extended-Response Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Developing Reasoning Ability to Solve Unique Problems			Learning How to Communicate Ideas		
	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis
NATION	13 (0.8)	10 (0.8)	8 (1.8)	13 (0.9)	11 (0.8)	10 (1.6)
Northeast	17 (1.9)	13 (2.6)	3 (1.9)	18 (2.2)	12 (1.8)	19 (5.5)
Southeast	11 (1.3)	9 (1.1)	9 (2.1)	10 (1.3)	11 (1.3)	8 (3.9)
Central	11 (1.2)	10 (1.7)	9 (2.9)	9 (1.1)	11 (2.2)	11 (1.8)
West	13 (1.6)	8 (1.2)	11 (4.3)	13 (1.6)	10 (1.2)	5 (1.6)
STATES						
Alabama	9 (0.9)	6 (0.7)	4 (1.6)	8 (0.9)	6 (0.8)	3 (1.1)
Arizona	12 (1.1)	7 (0.9)	7 (2.2)	11 (1.3)	9 (1.3)	7 (1.2)
Arkansas	10 (1.0)	8 (0.7)	6 (1.3)	8 (0.8)	8 (0.8)	9 (1.4)
California	13 (1.3)	11 (0.9)	10 (2.1)	12 (1.9)	13 (0.9)	9 (1.5)
Colorado	15 (0.8)	10 (1.1)	9 (2.6)	14 (1.0)	12 (0.9)	8 (1.4)
Connecticut	16 (1.1)	13 (1.1)	10 (2.0)	15 (1.2)	14 (1.1)	11 (1.6)
Delaware	10 (0.9)	9 (1.0)	8 (2.3)	9 (0.9)	10 (1.0)	9 (2.5)
Dist. Columbia	13 (1.1)	16 (3.0)	9 (3.1)	12 (1.2)	17 (1.9)	11(14.2)
Florida	11 (0.8)	10 (0.8)	8 (1.7)	11 (0.9)	10 (0.9)	9 (1.7)
Georgia	11 (1.0)	8 (0.8)	7 (1.6)	10 (0.9)	9 (0.7)	6 (1.6)
Hawaii	11 (1.0)	8 (0.8)	7 (1.3)	11 (1.1)	8 (0.7)	7 (1.2)
Idaho	13 (1.1)	9 (0.8)	9 (3.5)	12 (1.0)	11 (1.1)	9 (1.7)
Indiana	14 (1.0)	8 (0.9)	10 (2.4)	13 (1.3)	10 (0.9)	9 (1.8)
Iowa	17 (1.2)	13 (0.9)	7 (1.5)	15 (1.1)	15 (1.1)	13 (2.8)
Kentucky	12 (1.0)	7 (0.8)	4 (1.3)	12 (1.0)	7 (0.7)	5 (1.0)
Louisiana	8 (0.9)	8 (0.8)	5 (1.3)	9 (0.8)	7 (0.7)	7 (1.8)
Maine	15 (1.2)	10 (1.1)	5 (1.4)	17 (1.6)	10 (0.9)	8 (2.7)
Maryland	17 (1.3)	9 (1.0)	9 (2.2)	16 (1.5)	10 (1.0)	12 (2.3)
Massachusetts	16 (1.3)	11 (1.2)	8 (1.6)	15 (1.3)	12 (1.2)	7 (1.3)
Michigan	15 (1.1)	10 (1.1)	5 (2.9)	14 (1.2)	11 (0.9)	11 (2.7)
Minnesota	17 (1.2)	12 (1.1)	8 (2.4)	18 (1.5)	12 (1.1)	12 (1.7)
Mississippi	9 (0.9)	7 (1.1)	6 (1.5)	8 (0.9)	7 (1.1)	7 (1.7)
Missouri	13 (1.3)	9 (0.8)	7 (1.8)	12 (1.4)	10 (0.8)	8 (1.3)
Nebraska	15 (1.2)	11 (0.9)	5 (2.0)	14 (1.4)	12 (1.0)	10 (1.2)
New Hampshire	15 (1.1)	12 (1.1)	12 (4.0)	15 (1.3)	12 (0.9)	12 (2.5)
New Jersey	15 (1.0)	11 (1.2)	7 (2.6)	16 (1.1)	11 (1.1)	8 (2.8)
New Mexico	10 (0.8)	7 (0.7)	6 (1.3)	10 (0.8)	8 (0.7)	6 (1.3)
New York	14 (1.3)	12 (1.1)	6 (3.0)	15 (1.0)	12 (1.0)	10 (1.5)
North Carolina	11 (0.9)	7 (0.8)	9 (2.5)	10 (0.9)	8 (0.8)	9 (2.1)
North Dakota	16 (1.3)	11 (1.2)	13 (2.8)	14 (1.5)	13 (1.1)	13 (2.4)
Ohio	14 (1.3)	10 (1.1)	8 (1.9)	14 (1.4)	11 (1.0)	10 (1.5)
Oklahoma	11 (1.1)	9 (1.1)	8 (1.0)	10 (1.2)	9 (1.2)	10 (1.7)
Pennsylvania	15 (1.3)	8 (1.2)	12 (2.6)	14 (1.3)	11 (1.2)	11 (2.9)
Rhode Island	14 (1.0)	8 (0.9)	7 (1.3)	14 (1.1)	8 (0.9)	9 (1.5)
South Carolina	11 (0.9)	8 (0.8)	7 (1.9)	10 (0.9)	9 (1.0)	7 (2.1)
Tennessee	9 (0.9)	7 (0.7)	3 (0.9)	8 (0.8)	7 (0.6)	5 (1.8)
Texas	13 (1.1)	11 (1.2)	7 (1.7)	13 (1.1)	11 (1.3)	10 (1.6)
Utah	14 (1.1)	10 (0.9)	11 (2.4)	15 (1.5)	10 (0.9)	12 (1.5)
Virginia	14 (1.0)	10 (0.8)	10 (1.4)	14 (1.1)	11 (0.7)	9 (2.1)
West Virginia	9 (0.7)	7 (0.6)	6 (1.2)	9 (1.0)	8 (0.7)	5 (1.0)
Wisconsin	15 (1.3)	11 (1.4)	9 (1.8)	15 (1.9)	12 (1.2)	11 (3.5)
Wyoming	13 (1.2)	9 (0.8)	6 (1.2)	13 (1.4)	9 (0.9)	8 (1.2)
TERRITORIES						
Guam	13 (1.6)	11 (1.1)	21 (2.3)	14 (1.5)	11 (1.2)	15 (1.5)
Virgin Islands	13 (1.0)	17 (1.3)	30(30.2)	14 (0.9)	15 (1.8)	14 (2.5)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.61 | Overall Average Percentage Correct for Regular Constructed-Response Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating

PUBLIC SCHOOLS	Grade 4 - 1992					
	Developing Reasoning Ability to Solve Unique Problems			Learning How to Communicate Ideas		
	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis
NATION	43 (1.1)	40 (1.0)	39 (2.2)	42 (1.5)	40 (0.8)	41 (1.5)
Northeast	46 (2.3)	40 (2.5)	40 (4.5)	46 (2.4)	43 (2.3)	32 (3.1)
Southeast	36 (2.4)	34 (2.3)	31 (4.3)	36 (3.5)	34 (1.6)	35 (2.5)
Central	45 (2.1)	44 (1.4)	46 (1.9)	45 (2.4)	45 (1.5)	46 (1.9)
West	44 (2.5)	40 (1.3)	37 (9.7)	46 (2.9)	39 (1.0)	41 (2.8)
STATES						
Alabama	35 (1.4)	33 (1.3)	33 (2.8)	34 (1.3)	35 (1.5)	34 (2.6)
Arizona	41 (0.9)	40 (1.0)	40 (2.2)	40 (1.1)	40 (0.9)	41 (2.3)
Arkansas	37 (1.2)	36 (0.7)	30 (2.7)	36 (1.6)	36 (0.7)	35 (2.0)
California	37 (1.3)	37 (1.2)	29 (2.1)	38 (1.5)	37 (1.1)	28 (2.3)
Colorado	45 (1.0)	43 (1.0)	43 (4.0)	46 (1.1)	43 (1.1)	43 (2.1)
Connecticut	51 (1.1)	45 (1.2)	36 (6.6)	50 (1.4)	49 (1.0)	41 (2.1)
Delaware	44 (1.0)	39 (0.7)	37 (1.6)	43 (0.8)	39 (1.0)	38 (1.2)
Dist. Columbia	29 (0.5)	25 (0.6)	25 (1.3)	29 (0.6)	25 (0.8)	27 (1.1)
Florida	41 (0.8)	36 (1.2)	33 (2.7)	39 (1.1)	39 (1.1)	35 (2.9)
Georgia	41 (1.4)	37 (1.5)	36 (4.2)	40 (1.3)	39 (1.3)	35 (2.6)
Hawaii	43 (1.3)	38 (1.0)	35 (2.7)	41 (1.3)	40 (1.0)	36 (1.9)
Idaho	44 (1.0)	43 (0.9)	43 (3.0)	45 (1.2)	44 (0.8)	39 (1.6)
Indiana	44 (1.4)	42 (0.8)	39 (2.8)	42 (1.7)	43 (1.0)	41 (1.5)
Iowa	50 (0.9)	49 (0.9)	43 (2.7)	49 (1.3)	50 (0.9)	49 (1.7)
Kentucky	39 (0.8)	37 (1.2)	37 (5.7)	38 (1.0)	38 (1.1)	40 (3.6)
Louisiana	34 (1.0)	32 (1.4)	27 (2.4)	33 (1.2)	33 (1.2)	29 (2.7)
Maine	52 (1.1)	50 (1.0)	45 (2.7)	52 (1.4)	51 (0.9)	48 (1.7)
Maryland	44 (1.4)	41 (1.5)	32 (4.6)	42 (1.2)	44 (1.3)	41 (3.6)
Massachusetts	49 (1.3)	47 (1.4)	37 (2.7)	48 (1.9)	48 (1.3)	44 (2.7)
Michigan	42 (1.4)	45 (1.5)	34 (5.4)	41 (1.9)	45 (1.3)	37 (2.0)
Minnesota	50 (1.1)	47 (1.4)	42 (2.4)	49 (1.5)	47 (1.1)	50 (1.5)
Mississippi	29 (1.1)	31 (1.0)	25 (1.8)	28 (1.0)	31 (1.1)	31 (2.6)
Missouri	46 (1.3)	43 (1.2)	41 (2.3)	45 (1.6)	45 (1.2)	41 (1.6)
Nebraska	48 (1.3)	46 (1.2)	44 (3.4)	49 (1.7)	47 (1.0)	42 (2.4)
New Hampshire	52 (1.2)	48 (1.2)	44 (2.0)	53 (1.5)	49 (1.1)	47 (2.1)
New Jersey	49 (1.4)	44 (1.3)	42 (2.6)	49 (1.5)	45 (1.4)	43 (2.9)
New Mexico	42 (1.5)	37 (0.9)	37 (3.1)	40 (1.5)	38 (1.2)	37 (2.1)
New York	42 (1.2)	41 (1.2)	43 (4.7)	41 (1.3)	42 (1.2)	42 (2.4)
North Carolina	39 (0.9)	37 (1.1)	36 (3.0)	38 (1.0)	38 (0.9)	41 (1.9)
North Dakota	49 (1.0)	48 (0.9)	43 (1.7)	47 (1.1)	48 (0.8)	48 (2.1)
Ohio	44 (1.0)	40 (1.2)	30 (3.4)	43 (1.4)	41 (1.1)	38 (2.3)
Oklahoma	42 (1.1)	42 (1.0)	44 (2.0)	42 (1.0)	42 (1.1)	41 (1.7)
Pennsylvania	48 (1.2)	43 (1.4)	39 (3.0)	48 (1.4)	44 (1.2)	41 (3.2)
Rhode Island	41 (1.9)	38 (1.0)	36 (3.1)	38 (2.2)	40 (1.4)	38 (2.0)
South Carolina	38 (1.0)	37 (1.2)	33 (4.2)	38 (1.1)	36 (1.1)	37 (2.4)
Tennessee	37 (1.5)	36 (0.9)	28 (1.9)	36 (1.4)	36 (1.0)	33 (1.9)
Texas	42 (1.0)	39 (1.8)	36 (3.3)	42 (1.4)	40 (1.3)	33 (3.1)
Utah	46 (1.0)	44 (1.0)	39 (2.4)	48 (1.3)	43 (0.9)	41 (1.7)
Virginia	45 (1.4)	40 (1.4)	43 (3.4)	42 (1.3)	44 (1.3)	42 (2.6)
West Virginia	40 (1.2)	39 (1.0)	33 (2.2)	39 (1.3)	38 (0.8)	39 (1.9)
Wisconsin	50 (0.9)	46 (1.1)	42 (3.2)	49 (1.1)	48 (1.1)	47 (1.7)
Wyoming	47 (0.9)	45 (0.7)	38 (2.0)	47 (1.3)	45 (0.8)	47 (1.4)
TERRITORY						
Guam	28 (0.8)	29 (0.6)	21 (1.3)	31 (0.7)	25 (0.7)	27 (1.0)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.61 Overall Average Percentage Correct for Regular Constructed Response Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Developing Reasoning Ability to Solve Unique Problems			Learning How to Communicate Ideas		
	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis
NATION	56 (0.9)	51 (0.8)	43 (2.5)	55 (1.0)	52 (0.8)	52 (2.4)
Northeast	55 (2.1)	51 (3.4)	53 (4.0)	57 (2.8)	52 (2.1)	47 (5.8)
Southeast	52 (1.4)	48 (1.1)	44 (4.3)	51 (1.6)	49 (1.3)	48 (5.8)
Central	62 (2.1)	57 (1.4)	46 (5.5)	60 (1.7)	57 (1.8)	59 (4.4)
West	57 (1.3)	50 (1.1)	34 (4.1)	55 (1.4)	52 (1.4)	43 (5.0)
STATES						
Alabama	49 (1.9)	45 (1.1)	38 (2.8)	48 (1.7)	45 (1.3)	40 (2.7)
Arizona	56 (0.8)	51 (1.1)	41 (2.6)	55 (1.0)	54 (1.1)	46 (2.3)
Arkansas	54 (1.4)	47 (1.0)	42 (2.2)	51 (1.4)	48 (1.1)	44 (1.5)
California	56 (1.2)	49 (1.2)	40 (4.4)	54 (1.3)	52 (1.2)	46 (2.3)
Colorado	61 (0.7)	55 (1.1)	51 (2.7)	59 (1.2)	57 (0.9)	56 (1.7)
Connecticut	62 (1.2)	56 (1.1)	48 (3.1)	61 (1.1)	57 (1.3)	50 (2.8)
Delaware	56 (0.8)	51 (0.9)	42 (2.1)	55 (1.0)	52 (0.8)	49 (1.7)
Dist. Columbia	37 (0.8)	39 (1.3)	33 (2.4)	36 (0.8)	39 (1.2)	22 (2.3)
Florida	55 (1.0)	48 (1.2)	39 (2.2)	54 (1.1)	48 (1.0)	46 (2.4)
Georgia	52 (1.1)	46 (1.3)	42 (2.0)	50 (1.0)	48 (1.4)	45 (2.0)
Hawaii	58 (0.9)	48 (0.8)	39 (1.0)	57 (0.9)	48 (0.7)	41 (1.1)
Idaho	62 (0.8)	57 (0.7)	54 (3.7)	60 (0.8)	60 (0.8)	56 (1.0)
Indiana	61 (0.9)	53 (1.1)	47 (2.6)	60 (1.1)	55 (1.0)	52 (2.1)
Iowa	66 (0.9)	61 (1.1)	56 (2.0)	64 (1.0)	62 (0.8)	60 (3.0)
Kentucky	56 (1.1)	49 (1.1)	37 (2.4)	56 (1.2)	50 (1.0)	46 (2.6)
Louisiana	48 (1.7)	42 (1.0)	38 (2.8)	46 (1.6)	44 (1.2)	43 (2.7)
Maine	65 (1.0)	59 (0.9)	56 (2.5)	65 (1.1)	61 (0.6)	54 (1.9)
Maryland	59 (1.3)	49 (1.3)	44 (2.5)	56 (1.4)	52 (1.3)	50 (4.0)
Massachusetts	63 (0.9)	54 (1.3)	48 (2.1)	62 (1.4)	56 (1.2)	52 (2.3)
Michigan	56 (1.5)	54 (1.3)	49 (3.9)	55 (1.6)	56 (1.2)	56 (2.5)
Minnesota	66 (0.8)	60 (0.8)	51 (3.5)	65 (1.1)	61 (0.9)	60 (0.9)
Mississippi	44 (1.1)	41 (1.3)	38 (2.4)	43 (1.0)	42 (1.4)	41 (3.7)
Missouri	62 (1.0)	54 (0.9)	53 (2.0)	60 (1.2)	56 (0.9)	56 (1.5)
Nebraska	64 (1.0)	58 (0.8)	55 (3.6)	62 (1.0)	60 (0.9)	59 (1.9)
New Hampshire	64 (0.9)	59 (0.8)	57 (3.7)	64 (0.8)	60 (0.8)	54 (1.9)
New Jersey	58 (1.2)	55 (1.7)	48 (3.3)	58 (1.3)	56 (1.3)	56 (3.6)
New Mexico	55 (1.0)	48 (0.9)	44 (1.4)	54 (0.8)	49 (1.0)	46 (1.3)
New York	59 (1.6)	52 (1.6)	40 (3.0)	58 (1.7)	52 (1.7)	53 (3.4)
North Carolina	54 (1.0)	46 (1.1)	45 (2.7)	52 (1.2)	47 (1.0)	51 (1.7)
North Dakota	64 (0.7)	63 (1.0)	59 (3.7)	64 (0.9)	63 (0.8)	63 (2.5)
Ohio	59 (1.3)	55 (1.1)	48 (3.2)	59 (1.7)	54 (1.2)	55 (2.0)
Oklahoma	60 (1.3)	53 (0.9)	47 (1.6)	57 (1.2)	55 (0.9)	50 (2.1)
Pennsylvania	60 (1.1)	54 (1.0)	52 (3.6)	59 (1.2)	55 (1.1)	53 (3.7)
Rhode Island	57 (0.5)	51 (0.8)	44 (1.9)	56 (0.6)	52 (0.7)	50 (1.9)
South Carolina	54 (1.0)	47 (0.9)	41 (3.0)	51 (1.0)	49 (1.1)	49 (4.0)
Tennessee	53 (1.1)	47 (1.0)	44 (3.4)	51 (1.2)	49 (0.9)	45 (3.1)
Texas	56 (1.0)	50 (1.4)	40 (2.5)	54 (1.3)	53 (1.1)	44 (2.1)
Utah	62 (0.8)	57 (1.1)	53 (1.8)	61 (1.0)	58 (1.0)	55 (1.4)
Virginia	59 (1.2)	52 (1.2)	44 (1.9)	58 (1.4)	53 (1.1)	45 (2.6)
West Virginia	55 (1.0)	47 (1.1)	40 (1.6)	55 (1.2)	48 (0.9)	45 (1.7)
Wisconsin	63 (1.0)	59 (0.9)	51 (3.1)	63 (1.5)	60 (0.8)	56 (2.9)
Wyoming	62 (0.8)	58 (0.8)	53 (1.3)	63 (0.7)	57 (0.7)	57 (1.4)
TERRITORIES						
Guam	46 (1.1)	35 (1.1)	29 (1.5)	43 (0.9)	39 (1.1)	27 (1.3)
Virgin Islands						

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 5.62 | Overall Average Percentage Correct for Multiple-Choice Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating

PUBLIC SCHOOLS	Grade 4 - 1992					
	Developing Reasoning Ability to Solve Unique Problems			Learning How to Communicate Ideas		
	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis
NATION	49 (0.8)	48 (0.7)	48 (2.0)	49 (1.1)	48 (0.6)	49 (1.3)
Northeast	53 (1.6)	47 (1.8)	43 (4.4)	53 (1.9)	50 (1.5)	38 (1.5)
Southeast	45 (1.2)	44 (1.4)	42 (3.0)	44 (1.9)	44 (1.3)	46 (2.4)
Central	51 (1.8)	51 (1.4)	53 (2.6)	51 (2.0)	51 (1.5)	52 (1.6)
West	49 (2.0)	49 (1.0)	48 (4.3)	51 (2.4)	48 (0.8)	49 (2.6)
STATES						
Alabama	46 (0.9)	44 (1.0)	44 (2.8)	45 (0.9)	46 (1.2)	45 (2.2)
Arizona	48 (0.6)	47 (0.7)	46 (1.9)	48 (0.8)	47 (0.7)	47 (1.6)
Arkansas	46 (0.7)	47 (0.5)	43 (1.8)	46 (1.1)	47 (0.5)	45 (1.4)
California	46 (0.9)	46 (0.9)	39 (2.2)	46 (1.1)	46 (0.8)	40 (1.8)
Colorado	51 (0.7)	49 (0.8)	50 (3.7)	51 (0.8)	49 (0.8)	49 (1.9)
Connecticut	56 (0.8)	52 (0.9)	42 (4.3)	54 (1.0)	54 (0.8)	50 (1.8)
Delaware	53 (0.5)	47 (0.6)	47 (1.3)	52 (0.5)	48 (0.9)	47 (1.2)
Dist. Columbia	39 (0.5)	37 (0.5)	39 (2.0)	39 (0.5)	37 (0.6)	37 (1.0)
Florida	49 (0.7)	46 (0.8)	45 (1.9)	48 (0.8)	48 (0.8)	45 (2.1)
Georgia	50 (0.9)	47 (1.2)	47 (2.4)	49 (1.0)	49 (0.9)	44 (1.9)
Hawaii	50 (1.0)	46 (0.7)	44 (2.0)	49 (1.1)	48 (0.7)	44 (1.1)
Idaho	51 (0.7)	49 (0.6)	49 (1.7)	51 (0.8)	50 (0.6)	47 (1.2)
Indiana	51 (1.0)	49 (0.6)	46 (2.0)	50 (1.2)	50 (0.8)	49 (1.2)
Iowa	55 (0.7)	54 (0.7)	49 (2.1)	54 (1.0)	55 (0.7)	52 (0.8)
Kentucky	48 (0.7)	47 (0.8)	45 (2.9)	47 (0.7)	48 (0.8)	47 (2.4)
Louisiana	44 (0.7)	43 (1.1)	40 (1.2)	42 (0.8)	44 (0.9)	40 (1.4)
Maine	57 (0.8)	54 (0.9)	53 (2.2)	57 (1.1)	55 (0.7)	55 (1.5)
Maryland	50 (1.0)	49 (1.1)	41 (3.6)	48 (1.0)	51 (1.0)	48 (2.5)
Massachusetts	54 (0.9)	53 (1.0)	47 (2.4)	54 (1.3)	53 (0.9)	51 (1.8)
Michigan	50 (1.0)	51 (1.2)	46 (3.2)	49 (1.3)	52 (1.0)	46 (1.5)
Minnesota	55 (0.8)	54 (0.8)	50 (2.0)	54 (1.1)	54 (0.6)	56 (1.4)
Mississippi	42 (0.8)	43 (0.7)	38 (2.0)	41 (0.8)	43 (0.8)	44 (2.7)
Missouri	52 (1.0)	50 (0.9)	48 (1.8)	50 (1.1)	52 (0.9)	50 (1.3)
Nebraska	54 (0.8)	52 (0.9)	49 (2.2)	54 (1.2)	53 (0.9)	52 (2.0)
New Hampshire	56 (0.9)	53 (0.9)	51 (1.3)	56 (1.1)	53 (0.8)	53 (1.9)
New Jersey	56 (1.0)	52 (1.0)	49 (1.5)	55 (1.0)	53 (1.1)	50 (2.6)
New Mexico	48 (1.1)	45 (0.7)	43 (1.3)	47 (0.8)	46 (1.0)	45 (1.2)
New York	50 (0.9)	49 (0.8)	52 (3.1)	49 (1.0)	50 (0.7)	50 (1.5)
North Carolina	48 (0.6)	47 (0.9)	46 (2.2)	47 (0.8)	47 (0.7)	48 (1.4)
North Dakota	55 (0.8)	54 (0.9)	49 (1.7)	54 (0.9)	54 (0.9)	54 (1.1)
Ohio	51 (0.8)	48 (0.9)	42 (2.2)	50 (1.0)	49 (0.8)	47 (1.9)
Oklahoma	50 (0.8)	49 (0.8)	50 (2.2)	49 (0.9)	50 (0.7)	49 (1.3)
Pennsylvania	54 (1.0)	51 (1.0)	48 (2.4)	54 (1.1)	51 (0.9)	49 (2.0)
Rhode Island	49 (1.2)	47 (0.8)	45 (2.6)	48 (1.5)	49 (1.0)	47 (1.4)
South Carolina	47 (0.7)	46 (0.9)	46 (3.7)	48 (0.7)	46 (0.9)	47 (1.6)
Tennessee	46 (1.0)	46 (0.7)	43 (1.5)	45 (1.0)	46 (0.8)	46 (1.3)
Texas	51 (0.7)	49 (1.0)	50 (2.9)	51 (1.0)	50 (0.9)	46 (1.7)
Utah	54 (0.7)	51 (0.6)	48 (2.2)	55 (0.9)	51 (0.6)	50 (1.3)
Virginia	51 (1.1)	49 (1.0)	48 (2.3)	49 (0.9)	51 (1.0)	49 (1.4)
West Virginia	48 (1.0)	47 (0.7)	44 (1.7)	48 (1.1)	47 (0.6)	47 (1.3)
Wisconsin	56 (0.8)	53 (0.9)	49 (2.6)	55 (1.0)	54 (0.7)	55 (1.5)
Wyoming	52 (0.8)	51 (0.5)	48 (2.0)	52 (0.9)	51 (0.7)	53 (0.9)
TERRITORY						
Guam	40 (0.6)	40 (0.4)	35 (0.8)	41 (0.5)	38 (0.5)	38 (0.8)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 5.62 | Overall Average Percentage Correct for Multiple-Choice Questions by Teacher's Reports on the Instructional Emphasis Placed on Reasoning and Communicating (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Developing Reasoning Ability to Solve Unique Problems			Learning How to Communicate Ideas		
	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis	Heavy Emphasis	Moderate Emphasis	Little or No Emphasis
NATION	60 (0.7)	54 (0.7)	46 (1.7)	58 (0.8)	55 (0.6)	55 (1.8)
Northeast	59 (1.5)	54 (2.9)	50 (3.4)	60 (2.1)	55 (1.5)	50 (4.7)
Southeast	57 (1.5)	51 (1.2)	49 (2.6)	56 (1.7)	53 (0.5)	51 (4.0)
Central	64 (1.2)	58 (1.3)	45 (4.0)	62 (1.2)	58 (1.8)	60 (2.9)
West	60 (1.2)	53 (1.0)	42 (3.3)	58 (1.3)	56 (1.3)	48 (1.9)
STATES						
Alabama	54 (1.3)	49 (1.0)	42 (1.4)	52 (1.1)	50 (1.1)	46 (2.1)
Arizona	59 (0.7)	53 (1.0)	45 (1.7)	58 (0.9)	55 (0.7)	49 (1.7)
Arkansas	57 (1.0)	51 (0.7)	46 (1.5)	55 (1.1)	51 (0.8)	48 (1.2)
California	58 (1.2)	52 (1.1)	46 (2.4)	56 (1.2)	55 (1.1)	49 (1.4)
Colorado	61 (0.7)	56 (0.9)	53 (1.9)	59 (1.0)	58 (0.8)	57 (1.2)
Connecticut	63 (1.0)	58 (1.1)	51 (2.3)	62 (1.1)	59 (1.1)	54 (2.3)
Delaware	58 (0.7)	52 (0.7)	45 (1.9)	56 (0.8)	55 (0.6)	48 (1.6)
Dist. Columbia	44 (0.5)	45 (1.1)	41 (1.5)	44 (0.6)	45 (0.9)	33 (9.1)
Florida	58 (0.7)	51 (1.0)	43 (2.0)	56 (0.9)	52 (0.8)	51 (2.3)
Georgia	56 (0.9)	50 (0.9)	47 (1.8)	55 (0.7)	52 (1.1)	49 (1.4)
Hawaii	59 (0.7)	51 (0.6)	43 (1.0)	58 (0.6)	51 (0.6)	47 (1.0)
Idaho	63 (0.7)	58 (0.6)	54 (2.6)	61 (0.6)	61 (0.7)	57 (1.1)
Indiana	62 (0.9)	55 (0.9)	50 (2.5)	61 (1.1)	57 (0.8)	54 (1.9)
Iowa	67 (0.8)	62 (0.9)	57 (2.3)	66 (0.9)	63 (0.8)	61 (2.9)
Kentucky	58 (0.9)	52 (0.7)	44 (1.7)	58 (1.0)	52 (0.7)	49 (1.9)
Louisiana	52 (1.3)	48 (0.8)	46 (2.1)	50 (1.1)	49 (0.9)	48 (1.9)
Maine	65 (0.9)	58 (0.8)	55 (2.4)	65 (1.1)	60 (0.7)	55 (2.0)
Maryland	61 (1.2)	53 (1.0)	49 (1.9)	59 (1.2)	55 (1.1)	54 (3.1)
Massachusetts	63 (0.9)	56 (1.0)	49 (1.7)	62 (1.1)	57 (0.9)	53 (1.7)
Michigan	58 (1.2)	55 (1.1)	54 (3.3)	57 (1.3)	57 (1.1)	57 (1.8)
Minnesota	68 (0.8)	61 (0.8)	53 (2.7)	67 (1.1)	63 (0.8)	60 (1.0)
Mississippi	50 (0.9)	47 (1.0)	44 (1.6)	49 (0.8)	47 (0.9)	47 (1.9)
Missouri	62 (1.0)	56 (0.7)	54 (2.0)	61 (1.1)	57 (0.7)	57 (1.3)
Nebraska	65 (0.9)	60 (0.9)	55 (2.7)	64 (0.9)	61 (0.7)	61 (1.8)
New Hampshire	64 (0.8)	59 (0.8)	55 (3.2)	64 (0.7)	60 (0.8)	55 (1.7)
New Jersey	61 (1.0)	57 (1.3)	53 (1.2)	60 (1.1)	58 (1.0)	58 (2.4)
New Mexico	57 (0.8)	51 (0.7)	45 (1.3)	56 (0.6)	52 (0.8)	48 (1.0)
New York	61 (1.2)	55 (1.3)	45 (2.4)	59 (1.5)	55 (1.4)	55 (2.4)
North Carolina	56 (0.9)	49 (0.9)	49 (2.2)	55 (1.0)	51 (0.8)	51 (1.7)
North Dakota	66 (0.7)	64 (0.8)	62 (2.9)	65 (0.9)	64 (0.5)	65 (2.0)
Ohio	61 (1.0)	57 (1.1)	51 (2.7)	60 (1.6)	56 (1.1)	56 (1.5)
Oklahoma	61 (1.0)	55 (0.7)	51 (1.3)	58 (1.0)	57 (0.8)	52 (1.7)
Pennsylvania	61 (1.0)	55 (0.9)	52 (2.4)	60 (1.1)	57 (1.0)	53 (3.0)
Rhode Island	60 (0.5)	51 (0.6)	48 (2.4)	57 (0.6)	55 (0.6)	52 (1.4)
South Carolina	58 (0.9)	51 (0.9)	47 (1.7)	55 (0.8)	53 (1.0)	52 (2.6)
Tennessee	57 (1.0)	51 (0.8)	47 (2.8)	55 (1.0)	52 (0.7)	50 (3.1)
Texas	59 (1.0)	53 (1.1)	47 (2.0)	58 (1.1)	55 (1.0)	51 (1.7)
Utah	62 (0.6)	58 (0.9)	54 (2.0)	62 (0.8)	59 (0.8)	57 (1.5)
Virginia	62 (0.9)	54 (1.1)	49 (1.5)	60 (1.2)	55 (0.9)	50 (1.7)
West Virginia	56 (0.9)	50 (0.9)	46 (1.3)	56 (0.9)	51 (0.8)	48 (1.3)
Wisconsin	64 (1.0)	60 (1.0)	55 (1.9)	64 (1.2)	62 (0.7)	57 (2.2)
Wyoming	63 (0.7)	59 (0.7)	53 (1.1)	64 (0.8)	58 (0.7)	58 (1.5)
TERRITORIES						
Guam	52 (0.9)	41 (0.6)	39 (1.1)	49 (0.7)	45 (0.9)	35 (0.9)
Virgin Islands						

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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CHAPTER SIX

Students' Perceptions of Mathematics

Overview

Students come to mathematics classrooms with a wide variety of skills, prior knowledge, work habits, attitudes, and beliefs that affect learning. To provide information related to these instructional contexts, students were asked how they felt about eight statements designed to elicit their perceptions of mathematics. The statements fall into two categories. One category involves students' personal experience with mathematics ("I am good at mathematics.") and the other explores students' belief in its utility and relevance to life requirements ("Almost all people use mathematics in their jobs.")

Chapter Six includes the results for the nation and the states for all eight questions. In addition, by averaging the responses to the eight statements, TABLES 6.1 and 6.2 were created to provide an overall summary of students' perceptions and attitudes. Because five of the eight questions also were asked as part of the 1990 mathematics assessment, trend data are available for these questions. The summary of trends in students' perceptions are found in TABLES 6.3 and 6.4.

TABLE 6.1 Summary of Students' Positive Perceptions and Attitudes Toward Mathematics, Based on Questions Asked in 1992, Grades 4, 8, and 12

	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4						
Nation	—	—	84 (0.5)	222 (0.8)	16 (0.5)	202 (1.3)
White	—	—	86 (0.7)	230 (0.9)	14 (0.7)	212 (1.8)
Black	—	—	82 (1.4)	195 (1.4)	18 (1.4)	178 (2.5)
Hispanic	—	—	79 (1.1)	205 (1.4)	21 (1.1)	185 (2.5)
Asian/Pac. Islander	—	—	82 (2.4)	235 (2.6)	18 (2.4)	214 (4.1)
American Indian	—	—	79 (3.4)	212 (3.7)	21 (3.4)	203 (4.7)
Male	—	—	85 (0.6)	224 (0.9)	15 (0.6)	200 (1.7)
Female	—	—	84 (0.8)	220 (1.1)	16 (0.8)	204 (1.8)
Grade 8						
Nation	12 (0.5)	273 (1.5)	62 (0.6)	270 (0.9)	26 (0.6)	262 (1.5)
White	10 (0.6)	284 (1.7)	62 (0.7)	280 (1.0)	28 (0.8)	270 (1.6)
Black	17 (1.4)	245 (3.5)	63 (1.8)	238 (1.3)	20 (1.4)	229 (2.9)
Hispanic	10 (0.9)	262 (3.4)	63 (1.6)	250 (1.6)	27 (1.5)	236 (2.6)
Asian/Pac. Islander	6 (1.5)	297 (8.6)	60 (3.6)	287 (7.0)	35 (3.2)	290 (5.6)
American Indian	6 (2.4)	270 (9.5)	46 (5.7)	255 (4.2)	48 (6.4)	251 (3.4)
Male	12 (0.6)	274 (2.2)	62 (0.8)	270 (1.1)	26 (0.9)	260 (2.0)
Female	11 (0.8)	273 (2.4)	62 (0.8)	270 (1.2)	27 (0.7)	263 (1.9)
Grade 12						
Nation	10 (0.5)	311 (1.7)	56 (0.7)	302 (1.0)	34 (0.8)	291 (0.9)
White	8 (0.5)	324 (2.2)	54 (0.7)	309 (1.1)	38 (0.8)	295 (0.9)
Black	16 (1.4)	285 (3.2)	60 (2.0)	275 (1.7)	24 (2.1)	269 (2.6)
Hispanic	11 (1.4)	293 (5.0)	56 (3.4)	285 (2.1)	32 (3.3)	278 (2.4)
Asian/Pac. Islander	8 (1.6)	321 (7.1)	58 (3.5)	321 (3.6)	34 (3.5)	304 (5.8)
American Indian	3 (2.3)	319 (3.9)	52 (6.6)	286 (9.9)	46 (7.4)	274(12.0)
Male	11 (0.6)	311 (2.3)	56 (0.8)	304 (1.3)	33 (0.9)	293 (1.4)
Female	9 (0.6)	312 (2.3)	55 (1.1)	300 (1.2)	36 (1.0)	289 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Also this Summary is based on all eight questions at grades 4 and 8 and seven questions at grade 12 asked in 1992. "If I Had a Choice, I Would Not Study Any More Mathematics" was not asked at Grade 12. For the summary, the direction of the responses to "Mathematics is More for Boys than for Girls," "Learning Mathematics is Mostly Memorizing Facts", and "If I Had a Choice, I Would Not Study Any More Mathematics" was reversed to agree with the direction of the other questions. Percentages may not total 100 percent due to rounding error.

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TABLE 6.2 Summary of Students' Positive Perceptions and Attitudes Toward Mathematics Based on Eight Questions Asked in 1992

PUBLIC SCHOOLS	Grade 4 - 1992			
	Agree		Undecided or Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	83 (0.6)	221 (0.9)	17 (0.6)	202 (1.3)
Northeast	85 (1.5)	227 (2.1)	15 (1.5)	204 (3.6)
Southeast	84 (1.1)	212 (1.9)	16 (1.1)	192 (2.5)
Central	83 (1.1)	225 (2.2)	17 (1.1)	210 (3.0)
West	81 (1.1)	221 (1.8)	19 (1.1)	202 (2.3)
STATES				
Alabama	81 (1.0)	210 (1.6)	19 (1.0)	197 (2.1)
Arizona	81 (1.0)	218 (0.9)	19 (1.0)	197 (2.1)
Arkansas	83 (0.8)	212 (0.9)	17 (0.8)	195 (2.1)
California	79 (0.9)	214 (1.7)	21 (0.9)	187 (2.3)
Colorado	83 (0.7)	223 (1.0)	17 (0.7)	205 (1.7)
Connecticut	81 (0.8)	230 (1.1)	19 (0.8)	211 (2.1)
Delaware	84 (0.7)	220 (0.9)	16 (0.7)	199 (2.1)
Dist. Columbia	81 (0.7)	196 (0.6)	19 (0.7)	177 (1.5)
Florida	84 (0.9)	216 (1.4)	16 (0.9)	195 (2.8)
Georgia	84 (0.7)	217 (1.2)	16 (0.7)	200 (2.1)
Hawaii	79 (0.9)	218 (1.3)	21 (0.9)	197 (2.3)
Idaho	82 (0.8)	223 (0.9)	18 (0.8)	209 (1.7)
Indiana	84 (0.9)	222 (1.1)	16 (0.9)	210 (1.8)
Iowa	82 (0.8)	232 (1.1)	18 (0.8)	218 (1.5)
Kentucky	81 (0.9)	217 (1.1)	19 (0.9)	202 (1.6)
Louisiana	84 (0.9)	206 (1.4)	16 (0.9)	191 (2.5)
Maine	82 (0.9)	234 (1.1)	18 (0.9)	219 (1.8)
Maryland	82 (0.8)	220 (1.4)	18 (0.8)	202 (1.9)
Massachusetts	83 (0.9)	228 (1.2)	17 (0.9)	214 (2.0)
Michigan	83 (1.1)	222 (1.8)	17 (1.1)	204 (2.2)
Minnesota	84 (0.8)	231 (0.8)	16 (0.8)	215 (2.1)
Mississippi	84 (0.8)	203 (1.0)	16 (0.8)	186 (2.4)
Missouri	84 (0.8)	223 (1.2)	16 (0.8)	209 (2.2)
Nebraska	83 (0.9)	227 (1.2)	17 (0.9)	211 (2.2)
New Hampshire	82 (1.1)	232 (1.2)	18 (1.1)	217 (2.1)
New Jersey	86 (0.9)	229 (1.4)	14 (0.9)	212 (2.9)
New Mexico	83 (1.0)	215 (1.5)	17 (1.0)	198 (1.6)
New York	84 (1.0)	221 (1.2)	16 (1.0)	201 (2.5)
North Carolina	83 (0.7)	215 (1.1)	17 (0.7)	197 (2.3)
North Dakota	81 (1.3)	230 (0.9)	19 (1.3)	216 (1.4)
Ohio	84 (0.8)	220 (1.2)	16 (0.8)	204 (2.5)
Oklahoma	85 (0.7)	221 (1.1)	15 (0.7)	209 (1.6)
Pennsylvania	86 (0.8)	226 (1.4)	14 (0.8)	210 (2.1)
Rhode Island	80 (0.9)	218 (1.5)	20 (0.9)	200 (2.6)
South Carolina	85 (0.7)	214 (1.2)	15 (0.7)	199 (1.7)
Tennessee	80 (0.9)	213 (1.3)	20 (0.9)	196 (2.0)
Texas	84 (0.9)	220 (1.2)	16 (0.9)	202 (2.2)
Utah	81 (0.8)	226 (1.0)	19 (0.8)	210 (1.7)
Virginia	84 (0.9)	222 (1.3)	16 (0.9)	210 (2.3)
West Virginia	84 (0.8)	217 (1.1)	16 (0.8)	201 (1.9)
Wisconsin	83 (0.9)	230 (1.0)	17 (0.9)	216 (2.4)
Wyoming	84 (0.7)	227 (0.9)	16 (0.7)	212 (1.7)
TERRITORY				
Guam	63 (1.2)	199 (0.9)	37 (1.2)	179 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At Grade 4, students were not given the "strongly agree" and "strongly disagree" options. For the summary, the direction of the responses to "Mathematics is More for Boys than for Girls," "Learning Mathematics is Mostly Memorizing Facts," and "If I had a Choice I wouldn't Study Any More Mathematics" was reversed to agree with the direction of the other questions.

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TABLE 6.2 | Summary of Students' Positive Perceptions and Attitudes Toward Mathematics Based on Eight Questions Asked in 1992 (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	5 (0.3)	272 (2.1)	54 (0.9)	270 (1.1)	41 (0.9)	262 (1.3)
Northeast	6 (0.5)	*** (***)	50 (2.6)	271 (3.5)	44 (2.4)	265 (3.5)
Southeast	5 (0.6)	259 (3.3)	54 (1.2)	261 (1.6)	40 (1.2)	255 (2.0)
Central	5 (0.7)	282 (3.9)	58 (1.8)	276 (2.0)	38 (1.9)	267 (2.7)
West	4 (0.5)	273 (4.8)	52 (1.5)	271 (2.3)	44 (1.4)	262 (2.2)
STATES						
Alabama	5 (0.6)	260 (3.5)	57 (1.2)	253 (1.7)	37 (1.4)	248 (2.1)
Arizona	4 (0.4)	273 (5.4)	50 (1.2)	270 (1.4)	47 (1.4)	259 (1.4)
Arkansas	6 (0.4)	256 (3.9)	54 (1.1)	258 (1.4)	40 (1.1)	252 (1.5)
California	4 (0.4)	276 (5.1)	52 (1.2)	266 (1.8)	44 (1.2)	254 (1.7)
Colorado	5 (0.5)	285 (3.2)	53 (1.2)	277 (1.4)	42 (1.1)	264 (1.1)
Connecticut	5 (0.4)	284 (4.4)	54 (1.0)	277 (1.2)	41 (1.1)	268 (1.6)
Delaware	6 (0.6)	262 (5.5)	57 (1.3)	265 (1.2)	37 (1.3)	259 (1.5)
Dist. Columbia	11 (0.7)	239 (3.0)	62 (1.2)	237 (1.2)	28 (1.1)	228 (1.7)
Florida	6 (0.5)	266 (3.4)	55 (1.1)	261 (1.8)	38 (1.2)	256 (1.6)
Georgia	7 (0.5)	259 (3.0)	59 (1.2)	260 (1.3)	35 (1.3)	258 (1.7)
Hawaii	5 (0.5)	260 (4.8)	49 (0.9)	262 (1.2)	46 (0.9)	252 (1.3)
Idaho	4 (0.5)	288 (3.4)	52 (1.1)	278 (1.0)	44 (1.2)	269 (1.0)
Indiana	6 (0.7)	284 (4.2)	55 (1.3)	273 (1.2)	39 (1.4)	262 (1.6)
Iowa	5 (0.4)	304 (2.4)	58 (1.1)	286 (1.1)	37 (1.1)	275 (1.4)
Kentucky	4 (0.4)	271 (4.3)	53 (1.1)	266 (1.3)	43 (1.1)	256 (1.5)
Louisiana	7 (0.6)	249 (3.8)	56 (1.0)	250 (1.9)	37 (1.3)	248 (1.9)
Maine	6 (0.4)	288 (3.6)	55 (1.2)	282 (1.2)	40 (1.1)	271 (1.2)
Maryland	6 (0.4)	266 (3.9)	55 (1.1)	267 (1.6)	39 (1.0)	261 (1.4)
Massachusetts	4 (0.4)	282 (4.0)	53 (1.2)	276 (1.4)	43 (1.3)	267 (1.4)
Michigan	6 (0.4)	274 (3.8)	54 (1.1)	271 (1.5)	40 (1.1)	261 (1.6)
Minnesota	4 (0.4)	301 (3.8)	53 (1.4)	286 (1.2)	44 (1.5)	276 (1.3)
Mississippi	6 (0.6)	252 (3.1)	61 (1.1)	247 (1.2)	32 (1.2)	242 (1.6)
Missouri	6 (0.5)	283 (3.3)	54 (1.2)	274 (1.5)	40 (1.3)	264 (1.4)
Nebraska	5 (0.5)	286 (3.6)	55 (1.4)	281 (1.5)	40 (1.5)	270 (1.2)
New Hampshire	5 (0.4)	287 (3.6)	53 (1.2)	281 (1.2)	42 (1.3)	272 (1.2)
New Jersey	5 (0.5)	276 (4.2)	57 (1.3)	275 (1.6)	38 (1.4)	266 (2.1)
New Mexico	5 (0.4)	271 (2.6)	51 (1.3)	264 (1.2)	44 (1.3)	252 (1.2)
New York	6 (0.6)	272 (4.9)	56 (1.1)	270 (2.2)	38 (1.2)	261 (2.2)
North Carolina	6 (0.6)	262 (2.8)	59 (1.0)	259 (1.4)	35 (1.2)	255 (1.5)
North Dakota	4 (0.4)	296 (3.6)	51 (1.6)	290 (1.4)	45 (1.6)	273 (1.2)
Ohio	5 (0.7)	282 (3.5)	57 (1.4)	273 (1.9)	38 (1.3)	259 (1.7)
Oklahoma	5 (0.6)	280 (3.6)	53 (1.4)	270 (1.3)	42 (1.4)	263 (1.3)
Pennsylvania	5 (0.4)	278 (4.4)	54 (1.2)	273 (1.7)	41 (1.1)	267 (1.7)
Rhode Island	4 (0.4)	274 (4.1)	52 (1.1)	267 (1.1)	44 (1.0)	263 (1.1)
South Carolina	6 (0.7)	263 (2.6)	62 (1.4)	260 (1.2)	30 (1.3)	259 (1.7)
Tennessee	5 (0.7)	267 (2.7)	53 (1.2)	260 (1.7)	42 (1.3)	254 (1.4)
Texas	5 (0.5)	279 (4.4)	56 (1.3)	268 (1.6)	39 (1.3)	257 (1.7)
Utah	4 (0.4)	283 (3.6)	51 (1.0)	278 (0.9)	46 (1.0)	269 (1.0)
Virginia	6 (0.4)	271 (3.7)	57 (1.2)	269 (1.4)	37 (1.2)	264 (1.2)
West Virginia	4 (0.4)	272 (2.9)	54 (1.4)	261 (1.2)	41 (1.3)	254 (1.2)
Wisconsin	5 (0.4)	292 (3.3)	54 (1.1)	283 (1.8)	40 (1.2)	268 (1.4)
Wyoming	5 (0.5)	287 (2.8)	53 (1.2)	278 (1.0)	41 (1.3)	268 (1.0)
TERRITORIES						
Guam	4 (0.6)	*** (***)	46 (1.3)	241 (1.6)	50 (1.1)	230 (1.7)
Virgin Islands	11 (0.9)	227 (2.5)	64 (1.3)	224 (1.3)	25 (1.3)	214 (1.8)

At Grade 4, students were not given the "strongly agree" and "strongly disagree" options. For the summary, the direction of the responses to "Mathematics is More for Boys than for Girls," "Learning Mathematics is Mostly Memorizing Facts," and "If I had a Choice, I wouldn't Study Any More Mathematics" was reversed to agree with the direction of the other questions. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 6.3 Summary of Trends in Students' Positive Perceptions and Attitudes Toward Mathematics, Based on Five Questions Asked in Both 1990 and 1992, Grades 4, 8, and 12

		Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Assessment Years	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	--	--	80 (0.6)	223 (0.8)>	20 (0.6)	203 (1.0)
	1990	--	--	78 (0.8)	217 (1.1)	22 (0.8)	201 (1.4)
White	1992	--	--	82 (0.7)	230 (1.0)>	18 (0.7)	213 (1.5)
	1990	--	--	80 (1.0)	223 (1.2)	20 (1.0)	210 (1.7)
Black	1992	--	--	77 (1.4)	196 (1.4)	23 (1.4)	179 (2.0)
	1990	--	--	76 (2.3)	192 (1.9)	24 (2.3)	181 (3.3)
Hispanic	1992	--	--	76 (1.4)>	206 (1.3)	24 (1.4)<	187 (2.3)
	1990	--	--	70 (2.2)	206 (1.8)	30 (2.2)	183 (3.3)
Asian/Pac. Islander	1992	--	--	81 (2.5)	237 (2.6)	19 (2.5)	209 (4.1)
	1990	--	--	68 (5.9)	234 (4.3)	32 (5.9)	213 (3.8)
American Indian	1992	--	--	78 (3.3)	212 (3.5)	22 (3.3)	202 (5.4)
	1990	--	--	78 (4.3)	214 (3.5)	22 (4.3)	185 (6.3)
Male	1992	--	--	80 (0.7)>	224 (0.9)>	20 (0.7)<	204 (1.6)
	1990	--	--	77 (1.1)	218 (1.4)	23 (1.1)	201 (2.3)
Female	1992	--	--	80 (0.8)	221 (1.1)>	20 (0.8)	203 (1.5)
	1990	--	--	79 (1.2)	216 (1.2)	21 (1.2)	202 (2.1)
Grade 8							
Nation	1992	32 (0.8)>	277 (1.1)	48 (0.7)	267 (0.9)	20 (0.5)<	257 (1.6)
	1990	27 (1.3)	272 (1.9)	49 (0.9)	263 (1.6)	24 (1.2)	253 (1.9)
White	1992	31 (0.9)>	286 (1.1)>	48 (0.8)	276 (1.1)	20 (0.6)<	266 (1.7)>
	1990	26 (1.5)	279 (2.0)	48 (1.2)	272 (1.6)	26 (1.5)	259 (2.2)
Black	1992	36 (1.7)	245 (2.1)	45 (2.0)	237 (1.8)	18 (1.4)	224 (3.1)
	1990	32 (2.4)	249 (4.3)	52 (2.2)	234 (3.6)	15 (1.8)	229 (3.6)
Hispanic	1992	28 (1.4)	261 (1.9)	49 (1.8)	245 (1.5)	23 (1.6)	234 (2.9)
	1990	25 (2.2)	258 (5.1)	48 (2.3)	245 (2.2)	27 (2.0)	235 (3.3)
Asian/Pac. Islander	1992	37 (3.4)	294 (8.7)	47 (3.8)	284 (4.0)	16 (2.2)	290 (8.3)
	1990	29 (5.3)	293 (9.5)	52 (4.6)	282 (6.3)	18 (4.3)	261 (5.8)
American Indian	1992	27 (4.9)	265 (5.3)	54 (5.5)	251 (4.7)	19 (4.9)	248 (4.3)
	1990	24 (7.5)	260 (9.8)	48(14.0)	249 (9.0)	28 (8.6)	224(15.9)
Male	1992	32 (1.1)	278 (1.6)	48 (0.9)	267 (1.2)	21 (0.8)	256 (2.0)
	1990	28 (1.4)	274 (2.4)	48 (1.1)	264 (1.9)	24 (1.3)	252 (2.8)
Female	1992	32 (0.9)>	276 (1.4)	48 (1.0)	268 (1.1)	20 (0.6)<	257 (2.3)
	1990	26 (1.5)	270 (2.2)	50 (1.6)	263 (1.8)	24 (1.8)	253 (1.7)
Grade 12							
Nation	1992	18 (0.5)<	312 (1.2)	46 (0.7)	301 (1.0)>	35 (0.8)	290 (0.9)>
	1990	22 (1.0)	312 (1.9)	45 (1.0)	295 (1.4)	34 (1.2)	283 (1.3)
White	1992	17 (0.5)<	322 (1.4)	46 (0.7)	308 (1.0)>	38 (0.8)	294 (0.9)>
	1990	20 (1.2)	321 (1.9)	45 (0.9)	301 (1.6)	34 (1.3)	290 (1.4)
Black	1992	23 (1.6)	286 (2.8)	49 (2.0)	274 (1.8)	28 (2.4)	268 (2.4)>
	1990	27 (2.1)	279 (4.1)	43 (3.3)	269 (2.5)	30 (2.9)	258 (3.0)
Hispanic	1992	22 (1.7)	294 (3.1)	46 (3.7)	283 (2.5)	32 (3.7)	277 (2.5)>
	1990	20 (1.6)	298 (5.4)	43 (2.9)	280 (2.8)	37 (3.2)	260 (5.2)
Asian/Pac. Islander	1992	24 (2.9)	328 (4.4)	51 (4.2)	316 (3.6)	25 (2.9)	301 (6.7)
	1990	28 (7.7)	326(10.0)	54(10.7)	309 (6.1)	18 (4.3)	301(10.4)
American Indian	1992	15 (6.2)	278(18.8)	51 (5.8)	285(10.2)	34 (7.1)	278(14.6)
	1990	30(13.4)	311(13.4)	41(12.6)	278(13.2)	30(12.3)	277(17.0)
Male	1992	18 (0.6)<	314 (1.9)	48 (0.9)	303 (1.3)	35 (1.0)	292 (1.3)>
	1990	22 (1.2)	319 (2.6)	44 (1.3)	298 (1.9)	34 (1.5)	284 (1.7)
Female	1992	19 (0.7)	311 (1.5)	45 (1.1)	299 (1.3)>	35 (1.1)	287 (1.1)>
	1990	21 (1.4)	305 (2.1)	46 (1.5)	293 (1.8)	33 (1.4)	282 (1.7)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Also this Summary is based on five questions asked in both 1990 and 1992. These include: "I Like Mathematics," I Am Good at Mathematics," "Mathematics Is More for Boys than Girls," "Mathematics Is Useful for Solving Everyday Problems," and "Almost All People Use Mathematics in Their Jobs." For the summary, the direction of the responses to "Mathematics Is More for Boys than for Girls" was reversed to agree with the direction of the other four questions. Percentages may not total 100 percent due to rounding error.

TABLE 6.4 | Summary of Trends in Eighth Graders' Positive Perceptions and Attitudes Toward Mathematics Based on Five Questions Asked in Both 1990 and 1992

	Grade 8 - 1992					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	32 (0.8)	276 (1.2)	48 (0.8)	266 (1.0)	20 (0.6)	255 (1.6)
Northeast	30 (2.0)	278 (3.4)	48 (1.3)	268 (3.3)	22 (1.5)	259 (4.0)
Southeast	32 (1.3)	265 (1.5)	46 (1.7)	258 (1.6)	23 (1.1)	249 (2.4)
Central	34 (1.9)	280 (2.1)	49 (1.9)	271 (2.3)	17 (1.4)	263 (3.6)
West	31 (1.5)	279 (2.7)	48 (1.2)	266 (1.9)	21 (0.9)	253 (3.1)
STATES						
Alabama	31 (1.4)	259 (2.5)	49 (1.0)	250 (1.5)	20 (1.2)	243 (2.4)
Arizona	28 (1.1)	273 (1.6)	49 (0.9)	265 (1.4) >	23 (1.0)	254 (2.0)
Arkansas	32 (1.1) >	261 (1.7)	48 (1.2)	256 (1.5)	20 (1.0) <	246 (1.8)
California	29 (1.2) >	274 (2.3)	47 (1.0) <	260 (1.8)	23 (1.0)	248 (2.4)
Colorado	33 (1.1) »	283 (1.5) >	48 (1.1)	270 (1.1)	18 (0.9) «	258 (1.7)
Connecticut	33 (1.2) >	281 (1.6)	48 (1.1)	273 (1.2)	19 (0.9)	261 (2.2)
Delaware	33 (1.2) >	268 (2.0)	50 (1.1)	262 (1.2)	17 (0.8) «	255 (2.2)
Dist. Columbia	41 (1.2)	241 (1.5)	45 (1.3)	232 (1.1)	14 (0.8)	223 (2.6)
Florida	33 (1.1) »	267 (1.8)	47 (1.0)	257 (1.9)	19 (1.0) <	251 (2.0)
Georgia	37 (1.0) »	263 (1.6)	46 (1.0) <	258 (1.4)	17 (0.9) <	254 (2.0)
Hawaii	27 (0.9)	269 (1.7) >	47 (0.9)	257 (1.0) »	26 (0.8)	245 (2.1)
Idaho	32 (1.2)	284 (1.3)	49 (0.9)	273 (0.9)	19 (1.0)	262 (1.3)
Indiana	35 (1.2)	278 (1.6)	48 (1.2)	268 (1.4)	17 (1.1) <	255 (1.8)
Iowa	36 (1.0) >	292 (1.4) >	50 (0.9)	281 (1.2)	15 (0.8) <	268 (1.8)
Kentucky	29 (0.9)	272 (1.5) >	49 (1.0)	261 (1.4)	22 (0.9)	250 (1.9)
Louisiana	33 (1.1)	253 (1.9)	47 (0.9)	250 (2.0)	20 (1.1)	243 (2.1)
Maine	35 (1.0)	286 (1.4)	47 (1.0)	278 (1.1)	17 (1.0)	263 (1.8)
Maryland	33 (1.1)	269 (1.9)	48 (1.1)	265 (1.4)	19 (1.1)	257 (1.9)
Massachusetts	31 (1.1)	280 (1.5)	50 (1.0)	271 (1.2)	19 (1.0)	261 (2.3)
Michigan	34 (1.3) >	274 (2.0)	48 (1.1)	266 (1.6)	18 (0.8)	256 (2.2)
Minnesota	31 (1.3) >	292 (1.2)	50 (1.0)	282 (1.2) »	19 (1.1) <	266 (1.6)
Mississippi	36 (1.2)	252 (1.5)	48 (0.9)	244 (1.4)	17 (0.9)	238 (2.1)
Missouri	34 (1.3)	279 (1.6)	48 (0.9)	269 (1.3)	18 (1.0)	257 (1.7)
Nebraska	34 (1.1)	286 (1.6)	50 (1.2)	276 (1.4)	17 (1.0)	262 (1.7)
New Hampshire	33 (1.0) >	286 (1.4)	50 (0.9)	276 (1.1)	17 (0.9)	266 (1.6) >
New Jersey	34 (1.3) »	278 (1.9)	50 (1.2)	271 (1.7)	17 (0.9) <	259 (2.8)
New Mexico	28 (1.1)	270 (1.3)	49 (0.9)	259 (1.2)	23 (0.9)	247 (1.5)
New York	33 (1.2) »	275 (2.3)	48 (1.3)	265 (2.6)	19 (1.1)	255 (3.4)
North Carolina	34 (1.1)	264 (1.4) >	49 (0.9)	257 (1.3) >	17 (0.8) <	250 (2.1) >
North Dakota	30 (1.4)	294 (1.3)	52 (1.2)	281 (1.4)	17 (0.8)	268 (2.1)
Ohio	35 (1.2)	278 (1.9)	47 (1.0)	267 (1.6)	18 (1.1)	251 (2.3)
Oklahoma	32 (1.3)	276 (1.5)	49 (1.1)	267 (1.6)	20 (1.0)	257 (1.6)
Pennsylvania	32 (0.9) »	278 (2.2)	49 (0.9)	270 (1.5)	19 (0.9) <	260 (2.2)
Rhode Island	30 (1.0) »	271 (1.6)	50 (2.0)	265 (1.0)	20 (1.6)	259 (2.0) >
South Carolina	40 (1.2)	263 (1.4)	45 (1.1)	260 (1.2)	15 (0.9)	255 (2.1)
Tennessee	29 (1.3)	264 (2.0)	50 (1.0)	258 (1.5)	21 (1.0)	250 (2.0)
Texas	34 (1.3)	274 (1.3) >	48 (1.2)	262 (1.8)	19 (1.0)	252 (2.2)
Utah	29 (0.8)	283 (1.2)	49 (1.0)	273 (1.1)	22 (0.9)	264 (1.3)
Virginia	32 (0.9) >	272 (1.8)	49 (1.0)	268 (1.4)	18 (0.9)	258 (1.6)
West Virginia	31 (1.0)	266 (1.3)	49 (0.7)	258 (1.2)	20 (0.8)	248 (1.7)
Wisconsin	35 (1.3)	288 (1.9)	48 (1.0) <	277 (1.4)	18 (1.0)	261 (2.4)
Wyoming	33 (1.1) >	283 (1.2)	47 (0.9)	274 (1.3)	19 (1.0)	261 (1.3)
TERRITORIES						
Guam	24 (1.1) >	250 (1.7)	43 (1.4) «	238 (1.8)	34 (1.3)	224 (1.9)
Virgin Islands	42 (1.5) >	228 (1.3)	44 (1.3)	219 (1.6)	14 (0.9)	211 (2.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. For the summary, the direction of the responses to "Mathematics is More for Boys than for Girls" was reversed to agree with the direction of the other four questions. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 6.4 | Summary of Trends in Eighth Graders' Positive Perceptions and Attitudes Toward Mathematics Based on Five Questions Asked in Both 1990 and 1992 (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	27 (1.3)	272 (2.0)	49 (1.0)	263 (1.7)	24 (1.2)	252 (2.0)
Northeast	26 (4.9)	276 (4.5)!	53 (3.0)	271 (4.1)	21 (3.0)	262 (6.0)
Southeast	30 (2.7)	267 (3.9)	45 (2.1)	252 (3.5)	25 (3.0)	247 (3.9)
Central	25 (1.6)	271 (3.6)	50 (1.8)	267 (3.1)	25 (2.2)	255 (2.3)
West	27 (1.9)	273 (4.3)	48 (1.5)	262 (2.6)	25 (2.1)	248 (3.3)
STATES						
Alabama	30 (1.1)	260 (1.5)	48 (0.9)	251 (1.5)	22 (1.2)	247 (1.5)
Arizona	25 (1.0)	272 (1.4)	49 (0.9)	260 (1.5)	26 (1.1)	250 (1.8)
Arkansas	28 (1.0)	263 (1.3)	48 (1.2)	257 (1.2)	24 (0.9)	247 (1.3)
California	25 (1.1)	268 (1.9)	51 (0.8)	257 (1.3)	23 (0.9)	244 (2.2)
Colorado	27 (1.0)	278 (1.3)	50 (1.0)	268 (1.1)	22 (0.8)	254 (1.4)
Connecticut	28 (1.0)	278 (1.5)	52 (1.1)	270 (1.3)	21 (1.0)	259 (1.6)
Delaware	28 (1.1)	270 (1.6)	49 (1.3)	261 (1.3)	23 (1.0)	249 (1.7)
Dist. Columbia	38 (0.8)	240 (1.2)	48 (0.9)	229 (1.2)	14 (0.7)	223 (2.3)
Florida	26 (0.9)	262 (1.8)	51 (1.0)	255 (1.7)	23 (0.9)	250 (1.8)
Georgia	29 (0.9)	263 (1.5)	50 (0.9)	260 (1.7)	21 (0.9)	252 (2.0)
Hawaii	25 (0.9)	263 (1.7)	47 (1.0)	251 (1.2)	28 (1.0)	243 (1.5)
Idaho	29 (0.9)	281 (1.1)	49 (1.0)	271 (0.9)	22 (1.1)	260 (1.8)
Indiana	31 (1.2)	276 (1.4)	48 (1.0)	267 (1.4)	21 (0.9)	256 (2.0)
Iowa	32 (1.0)	286 (1.3)	49 (1.0)	278 (1.3)	18 (0.9)	265 (1.9)
Kentucky	28 (1.2)	265 (1.5)	50 (1.1)	257 (1.5)	22 (0.9)	248 (1.5)
Louisiana	29 (1.1)	254 (1.7)	50 (0.9)	246 (1.5)	21 (1.1)	239 (1.6)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	30 (1.0)	267 (1.8)	51 (0.9)	262 (1.6)	20 (0.9)	250 (2.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	29 (1.1)	273 (1.7)	51 (1.0)	264 (1.3)	20 (0.9)	255 (2.0)
Minnesota	26 (1.3)	289 (1.5)	51 (1.3)	275 (1.1)	23 (1.2)	263 (1.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	33 (1.3)	287 (1.2)	49 (1.2)	274 (1.3)	18 (0.9)	260 (1.7)
New Hampshire	29 (1.3)	282 (1.6)	52 (1.4)	274 (1.0)	19 (1.2)	260 (1.6)
New Jersey	27 (1.1)	280 (1.8)	52 (1.0)	269 (1.3)	20 (1.0)	261 (1.6)
New Mexico	26 (1.3)	269 (1.7)	51 (1.3)	257 (1.2)	23 (0.9)	244 (1.5)
New York	27 (1.0)	269 (1.7)	51 (1.1)	262 (1.6)	22 (1.0)	252 (1.9)
North Carolina	32 (1.0)	257 (1.8)	48 (1.0)	251 (1.3)	20 (0.9)	241 (1.7)
North Dakota	29 (1.5)	293 (2.0)	50 (1.4)	280 (1.5)	20 (1.1)	268 (2.2)
Ohio	32 (1.0)	273 (1.4)	48 (1.0)	263 (1.1)	20 (1.0)	253 (1.7)
Oklahoma	29 (0.9)	271 (1.9)	51 (0.9)	262 (1.5)	20 (1.0)	255 (2.1)
Pennsylvania	27 (1.0)	275 (2.1)	50 (0.9)	267 (1.7)	23 (1.0)	256 (2.0)
Rhode Island	24 (0.8)	269 (1.8)	53 (1.1)	261 (1.1)	23 (1.0)	251 (1.5)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	31 (1.0)	268 (1.7)	48 (1.0)	258 (1.5)	22 (1.1)	247 (2.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	29 (0.8)	269 (1.7)	50 (1.0)	265 (1.9)	21 (0.9)	256 (1.9)
West Virginia	28 (1.2)	266 (1.5)	50 (1.0)	255 (1.1)	22 (0.9)	245 (1.5)
Wisconsin	32 (1.1)	283 (1.6)	51 (1.1)	274 (1.3)	17 (0.8)	261 (1.9)
Wyoming	30 (0.8)	282 (1.0)	48 (1.0)	272 (0.9)	22 (0.7)	260 (1.5)
TERRITORIES						
Guam	19 (1.1)	250 (2.0)	51 (1.6)	233 (1.3)	30 (1.4)	225 (1.4)
Virgin Islands	37 (1.4)	227 (1.5)	47 (1.2)	216 (1.1)	16 (0.9)	208 (1.9)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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Students' Personal Experience with Mathematics

TABLE 6.5 Students' Responses to the Statement "I Like Mathematics," Grades 4, 8, and 12

	Assessment Years	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	--	--	71 (0.8)	220 (0.9)>	29 (0.8)	215 (0.9)>
	1990	--	--	70 (1.0)	216 (1.1)	30 (1.0)	209 (1.3)
White	1992	--	--	71 (1.0)	229 (1.0)>	29 (1.0)	223 (1.1)>
	1990	--	--	69 (1.1)	223 (1.2)	31 (1.1)	215 (1.5)
Black	1992	--	--	74 (1.9)	194 (1.5)	26 (1.9)	186 (2.0)
	1990	--	--	76 (2.5)	190 (2.0)	24 (2.5)	187 (3.1)
Hispanic	1992	--	--	72 (1.7)	203 (1.6)	28 (1.7)	198 (2.4)
	1990	--	--	66 (2.3)	204 (2.2)	34 (2.3)	191 (2.7)
Asian/Pac. Islander	1992	--	--	80 (2.8)	234 (2.9)	20 (2.8)	222 (4.1)
	1990	--	--	74 (4.6)	228 (4.0)	26 (4.6)	226 (9.2)
American Indian	1992	--	--	66 (4.5)	209 (3.7)	34 (4.5)	212 (5.3)
	1990	--	--	64 (4.4)	214 (4.6)	36 (4.4)	196 (6.9)
Male	1992	--	--	72 (1.0)	222 (0.9)>	28 (1.0)	215 (1.4)>
	1990	--	--	69 (1.3)	217 (1.4)	31 (1.3)	207 (2.0)
Female	1992	--	--	71 (1.0)	219 (1.1)>	29 (1.0)	215 (1.5)
	1990	--	--	71 (1.3)	214 (1.3)	29 (1.3)	210 (2.0)
Grade 8							
Nation	1992	18 (0.6)	275 (1.4)	39 (0.8)	271 (1.1)>	43 (0.9)	263 (1.2)>
	1990	18 (1.1)	271 (2.1)	39 (1.1)	266 (1.6)	43 (1.6)	258 (1.5)
White	1992	17 (0.7)	287 (1.6)>	40 (1.0)	280 (1.1)>	44 (1.1)	271 (1.4)>
	1990	16 (1.3)	280 (2.4)	38 (1.4)	274 (1.9)	45 (2.2)	264 (1.6)
Black	1992	26 (1.7)	245 (2.5)	38 (1.7)	236 (1.7)	36 (1.4)	234 (2.3)
	1990	26 (2.3)	252 (4.5)	39 (2.5)	235 (2.5)	35 (2.4)	232 (3.7)
Hispanic	1992	17 (1.5)	260 (2.5)	38 (1.6)	249 (2.0)	45 (2.1)	240 (2.1)
	1990	20 (2.4)	254 (4.7)	39 (2.0)	248 (2.6)	41 (2.6)	238 (2.8)
Asian/Pac. Indian	1992	21 (2.7)	289 (7.4)	44 (2.6)	291 (7.0)	35 (3.1)	286 (5.1)
	1990	20 (5.1)	298 (8.6)	47 (3.2)	279 (4.3)	32 (4.4)	275 (6.0)
American Indian	1992	15 (3.9)	260 (6.7)	36 (4.0)	259 (4.4)	49 (4.6)	249 (3.9)
	1990	17 (3.9)	246(23.6)	27 (5.1)	259 (6.9)	55 (4.9)	237 (9.4)
Male	1992	20 (0.8)	275 (2.0)	40 (1.0)	271 (1.3)	41 (1.0)	262 (1.5)
	1990	20 (1.3)	270 (2.8)	39 (1.5)	267 (1.8)	40 (1.8)	258 (2.2)
Female	1992	16 (0.8)	275 (1.9)	39 (1.0)	271 (1.3)>	45 (1.2)	264 (1.3)>
	1990	16 (1.4)	273 (2.6)	38 (1.5)	264 (2.0)	46 (2.1)	258 (1.3)
Grade 12							
Nation	1992	15 (0.6)	313 (1.6)	36 (0.7)	305 (1.2)>	49 (0.9)	290 (0.9)>
	1990	18 (1.0)	314 (2.1)	36 (1.0)	298 (1.4)	46 (1.4)	284 (1.1)
White	1992	13 (0.5)<	325 (1.6)	36 (0.8)	312 (1.2)>	51 (0.9)>	295 (0.9)>
	1990	17 (1.0)	322 (1.9)	36 (1.2)	305 (1.5)	47 (1.4)	290 (1.2)
Black	1992	21 (1.6)	289 (3.1)	34 (1.7)	278 (2.1)	45 (1.8)	266 (1.9)
	1990	21 (2.0)	284 (4.1)	40 (3.0)	270 (3.4)	39 (3.2)	259 (3.0)
Hispanic	1992	20 (2.6)	291 (3.7)	35 (2.0)	288 (2.4)	45 (4.0)	276 (2.2)>
	1990	16 (2.0)	296 (5.8)	38 (2.3)	285 (3.1)	46 (2.6)	262 (3.5)
Asian/Pac. Indian	1992	25 (3.7)	322 (4.2)	40 (4.5)	318 (4.0)	36 (3.8)	307 (6.1)
	1990	23 (8.9)	324(12.1)	42 (6.3)	320 (5.3)	36 (5.8)	297 (5.4)
American Indian	1992	20 (9.7)	300(20.0)	30 (7.4)	276(10.9)<	50 (8.0)	278(10.8)
	1990	36(14.8)	284(23.3)	22(10.5)	312 (6.4)	41(13.8)	278(12.0)
Male	1992	16 (0.9)	314 (2.6)	37 (1.1)	307 (1.3)	47 (1.0)>	292 (1.3)>
	1990	19 (1.3)	319 (2.5)	39 (1.4)	302 (1.9)	42 (1.7)	284 (1.5)
Female	1992	14 (0.8)	312 (1.9)	34 (1.0)	304 (1.5)>	51 (1.2)	289 (1.0)
	1990	17 (1.2)	308 (2.6)	34 (1.5)	295 (2.0)	49 (1.8)	285 (1.5)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Percentages may not total 100 percent due to rounding error.

TABLE 6.6 | Students' Responses to the Statement "I Like Mathematics"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Agree		Undecided or Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	72 (0.9)	219 (0.9)	28 (0.9)	214 (1.1)
Northeast	71 (1.8)	225 (2.4)	29 (1.8)	218 (2.5)
Southeast	74 (1.9)	210 (2.3)	26 (1.9)	204 (1.5)
Central	73 (2.0)	224 (2.2)	27 (2.0)	218 (2.7)
West	70 (1.6)	219 (1.7)	30 (1.6)	215 (2.0)
STATES				
Alabama	72 (1.2)	207 (1.6)	28 (1.2)	207 (2.0)
Arizona	73 (0.9)	217 (1.1)	27 (0.9)	208 (1.7)
Arkansas	74 (1.1)	210 (1.0)	26 (1.1)	206 (1.7)
California	71 (1.1)	210 (1.7)	29 (1.1)	203 (2.0)
Colorado	72 (1.1)	222 (1.1)	28 (1.1)	215 (1.4)
Connecticut	72 (1.1)	228 (1.2)	28 (1.1)	221 (1.6)
Delaware	74 (1.1)	219 (0.9)	26 (1.1)	211 (1.7)
Dist. Columbia	78 (0.9)	193 (0.6)	22 (0.9)	189 (1.6)
Florida	75 (1.2)	215 (1.5)	25 (1.2)	207 (2.4)
Georgia	76 (0.8)	216 (1.3)	24 (0.8)	211 (1.9)
Hawaii	75 (1.1)	216 (1.4)	25 (1.1)	207 (1.9)
Idaho	70 (1.1)	222 (1.0)	30 (1.1)	217 (1.5)
Indiana	76 (1.1)	221 (1.2)	24 (1.1)	216 (1.4)
Iowa	72 (1.0)	231 (1.2)	28 (1.0)	224 (1.3)
Kentucky	70 (1.1)	216 (1.1)	30 (1.1)	210 (1.5)
Louisiana	76 (1.3)	204 (1.4)	24 (1.3)	201 (2.1)
Maine	73 (0.9)	234 (1.1)	27 (0.9)	225 (1.5)
Maryland	71 (1.0)	218 (1.5)	29 (1.0)	213 (1.7)
Massachusetts	72 (1.3)	228 (1.3)	28 (1.3)	221 (1.9)
Michigan	72 (1.3)	221 (1.9)	28 (1.3)	214 (1.9)
Minnesota	74 (1.0)	230 (1.0)	26 (1.0)	222 (1.3)
Mississippi	76 (1.0)	201 (1.0)	24 (1.0)	198 (1.9)
Missouri	74 (1.0)	223 (1.2)	26 (1.0)	218 (1.8)
Nebraska	73 (1.2)	226 (1.4)	27 (1.2)	219 (1.9)
New Hampshire	70 (1.4)	232 (1.3)	30 (1.4)	223 (1.5)
New Jersey	76 (1.1)	228 (1.6)	24 (1.1)	221 (2.0)
New Mexico	74 (1.1)	213 (1.6)	26 (1.1)	210 (1.8)
New York	75 (1.3)	220 (1.3)	25 (1.3)	213 (1.8)
North Carolina	73 (0.9)	214 (1.2)	27 (0.9)	207 (1.5)
North Dakota	71 (1.4)	230 (0.9)	29 (1.4)	221 (1.3)
Ohio	74 (1.1)	220 (1.3)	26 (1.1)	212 (1.8)
Oklahoma	75 (1.1)	221 (1.1)	25 (1.1)	215 (1.4)
Pennsylvania	78 (1.0)	226 (1.4)	22 (1.0)	217 (2.3)
Rhode Island	72 (1.1)	217 (1.5)	28 (1.1)	209 (2.3)
South Carolina	76 (0.9)	212 (1.2)	24 (0.9)	209 (1.5)
Tennessee	72 (1.1)	212 (1.3)	28 (1.1)	204 (1.8)
Texas	76 (0.9)	219 (1.3)	24 (0.9)	212 (1.8)
Utah	69 (0.8)	226 (1.1)	31 (0.8)	217 (1.3)
Virginia	74 (0.9)	221 (1.3)	26 (0.9)	218 (2.0)
West Virginia	77 (1.0)	216 (1.1)	23 (1.0)	208 (1.6)
Wisconsin	75 (1.0)	230 (1.1)	25 (1.0)	223 (1.8)
Wyoming	74 (0.8)	226 (1.0)	26 (0.8)	220 (1.4)
TERRITORY				
Guam	66 (1.2)	194 (1.1)	34 (1.2)	187 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

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TABLE 6.6 | Students' Responses to the Statement "I Like Mathematics" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	18 (0.7)	274 (1.5)	39 (0.8)	269 (1.2)	43 (0.9)	262 (1.3)
Northeast	16 (1.1)	275 (4.4)	39 (2.3)	273 (3.0)	45 (2.6)	262 (4.1)
Southeast	20 (1.5)	264 (2.2)	40 (1.4)	259 (1.9)	41 (0.8)	254 (1.8)
Central	21 (1.2)	279 (2.3)	40 (1.6)	275 (2.7)	40 (2.0)	268 (2.3)
West	16 (1.4)	278 (3.3)	39 (1.5)	269 (2.3)	45 (1.8)	262 (2.3)
STATES						
Alabama	19 (1.3)	260 (2.8)	43 (1.3)	252 (2.1)	38 (1.5)	247 (1.8)
Arizona	15 (0.7)	273 (2.6)	40 (1.0)	267 (1.4)	46 (1.2)	260 (1.5) >
Arkansas	19 (1.0)	260 (2.2)	40 (1.1)	257 (1.5)	41 (1.1)	252 (1.5)
California	17 (0.9)	271 (2.9)	40 (1.2)	263 (2.0)	43 (1.5)	256 (1.7)
Colorado	19 (0.9) >	282 (1.8) >	41 (1.0)	275 (1.5)	40 (1.1) <	264 (1.4)
Connecticut	20 (0.8)	276 (2.0)	41 (0.9)	276 (1.4)	39 (1.2)	270 (1.5)
Delaware	20 (1.0)	267 (2.5)	39 (1.4)	265 (1.1)	41 (1.1)	258 (1.3)
Dist. Columbia	31 (1.0)	242 (1.6)	45 (1.4)	233 (1.3)	25 (1.1)	228 (1.9)
Florida	21 (0.8) »	266 (2.2)	41 (1.3)	260 (1.9)	39 (1.4)	255 (1.8)
Georgia	23 (0.9) >	263 (1.9)	43 (1.1)	258 (1.4)	35 (1.3)	257 (1.5)
Hawaii	18 (0.8)	263 (1.9)	40 (1.1) >	261 (1.6) »	42 (0.9) <	251 (1.4)
Idaho	16 (0.9)	285 (2.1)	39 (1.1)	278 (1.0)	45 (1.5)	268 (0.9) >
Indiana	22 (1.1)	278 (2.1)	44 (1.1)	272 (1.4)	34 (1.3)	261 (1.5)
Iowa	20 (1.0)	293 (1.5)	44 (0.9)	285 (1.2) >	36 (1.3)	274 (1.5)
Kentucky	19 (1.0)	270 (1.8)	41 (1.0)	263 (1.4) >	39 (1.1)	256 (1.6)
Louisiana	21 (0.9)	251 (2.2)	40 (1.3)	249 (1.9)	39 (1.4)	249 (2.0)
Maine	18 (0.9)	286 (2.2)	41 (1.1)	282 (1.0)	41 (1.3)	271 (1.2)
Maryland	19 (1.1)	266 (2.4)	41 (1.1)	266 (1.7)	40 (1.3)	263 (1.3)
Massachusetts	18 (1.0)	280 (2.1)	42 (1.2)	275 (1.3)	41 (1.5)	266 (1.5)
Michigan	21 (1.0)	272 (2.2)	39 (1.3) <	270 (2.0)	40 (1.6)	262 (1.8)
Minnesota	16 (1.0)	291 (1.5)	41 (1.4)	286 (1.3) »	43 (1.8)	275 (1.2) »
Mississippi	23 (1.1)	253 (2.0)	46 (0.9)	246 (1.4)	32 (1.3)	241 (1.6)
Missouri	20 (1.0)	279 (1.8)	42 (1.0)	274 (1.4)	38 (1.4)	263 (1.5)
Nebraska	19 (1.1)	286 (1.9)	43 (1.2)	280 (1.5)	38 (1.4)	269 (1.2)
New Hampshire	18 (0.9)	285 (1.4)	40 (1.3)	280 (1.3)	41 (1.5)	272 (1.3) >
New Jersey	20 (1.1)	274 (2.9)	43 (0.9)	274 (1.6)	37 (1.4)	267 (2.0)
New Mexico	16 (1.1)	270 (1.7)	39 (0.9)	261 (1.3)	45 (1.4)	253 (1.2)
New York	21 (1.2)	275 (2.8)	43 (1.2)	267 (2.1)	36 (1.3)	261 (2.5)
North Carolina	23 (1.0)	263 (1.5) >	41 (0.9)	257 (1.7) >	36 (1.2)	255 (1.6) »
North Dakota	16 (1.0)	294 (2.2)	42 (1.3)	286 (1.4)	42 (1.3)	275 (1.2)
Ohio	20 (0.9)	279 (2.7)	41 (1.0)	271 (2.0)	39 (1.4)	259 (1.9)
Oklahoma	19 (1.0)	275 (1.8)	43 (1.1)	271 (1.4) >	38 (1.2)	260 (1.6)
Pennsylvania	19 (0.8)	278 (2.4)	42 (1.0)	272 (1.6)	39 (1.2)	266 (1.8)
Rhode Island	18 (0.8)	270 (2.2)	42 (1.3)	266 (1.2)	40 (1.2)	263 (1.5) >
South Carolina	24 (1.1)	261 (1.6)	43 (1.2)	260 (1.4)	33 (1.3)	259 (1.5)
Tennessee	19 (0.9)	264 (2.0)	44 (1.0)	261 (1.9)	37 (1.2)	251 (1.6)
Texas	18 (1.1)	273 (2.0)	40 (1.2)	265 (1.6) >	42 (1.3)	259 (2.0)
Utah	15 (0.8)	286 (1.7)	39 (1.1)	277 (1.2)	46 (1.1)	268 (0.9)
Virginia	19 (0.8)	270 (1.8)	41 (1.1)	270 (1.4)	39 (1.4)	263 (1.5)
West Virginia	21 (0.9)	266 (1.4)	43 (1.0)	260 (1.2)	37 (1.3)	253 (1.5)
Wisconsin	19 (1.3)	288 (2.2)	40 (1.3)	281 (1.7)	40 (1.7)	269 (1.7)
Wyoming	18 (0.9) >	284 (1.6)	40 (1.1)	278 (1.2)	42 (1.5)	266 (1.0)
TERRITORIES						
Guam	21 (1.0)	246 (1.6)	40 (1.3)	236 (1.9)	39 (1.1)	231 (1.7)
Virgin Islands	29 (1.2)	227 (1.7)	40 (1.3)	222 (1.4)	31 (1.4) <	218 (1.7)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 6.6 | Students' Responses to the Statement "I Like Mathematics" (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	18 (1.2)	271 (2.2)	39 (1.2)	265 (1.8)	43 (1.8)	257 (1.6)
Northeast	17 (4.5)	276 (6.1)!	39 (3.5)	272 (4.6)	43 (6.8)	266 (4.0)
Southeast	21 (2.2)	262 (3.8)	37 (1.7)	254 (3.5)	42 (3.2)	252 (3.6)
Central	16 (1.3)	275 (3.9)	43 (2.6)	266 (2.8)	40 (2.9)	260 (2.9)
West	18 (1.9)	273 (4.3)	37 (2.3)	267 (3.5)	45 (2.3)	252 (2.2)
STATES						
Alabama	21 (1.0)	257 (1.4)	41 (1.2)	255 (1.6)	38 (1.6)	249 (1.3)
Arizona	16 (0.8)	268 (2.3)	39 (1.1)	263 (1.6)	45 (1.3)	255 (1.4)
Arkansas	19 (0.9)	262 (1.9)	40 (0.9)	259 (1.2)	41 (1.1)	251 (1.1)
California	15 (0.8)	268 (2.6)	41 (1.0)	260 (1.7)	44 (1.1)	251 (1.7)
Colorado	16 (0.9)	274 (1.8)	40 (0.9)	271 (1.1)	44 (1.2)	262 (1.2)
Connecticut	18 (0.8)	274 (2.2)	44 (1.1)	272 (1.4)	39 (1.3)	266 (1.3)
Delaware	21 (1.1)	268 (2.1)	40 (1.4)	263 (1.6)	39 (1.0)	255 (1.2)
Dist. Columbia	32 (1.2)	239 (1.6)	43 (1.2)	229 (1.5)	25 (1.0)	230 (2.1)
Florida	17 (0.7)	259 (2.2)	41 (1.3)	258 (1.7)	43 (1.4)	252 (1.2)
Georgia	19 (0.7)	262 (2.6)	45 (1.1)	261 (1.5)	36 (1.1)	256 (1.7)
Hawaii	18 (0.8)	259 (1.9)	36 (0.7)	253 (1.3)	45 (0.9)	248 (1.2)
Idaho	17 (0.7)	280 (1.5)	40 (1.1)	276 (1.1)	43 (1.2)	264 (1.2)
Indiana	20 (1.1)	279 (1.6)	43 (1.1)	270 (1.4)	38 (1.2)	259 (1.5)
Iowa	20 (1.0)	288 (1.7)	44 (1.1)	281 (1.4)	36 (1.4)	269 (1.5)
Kentucky	20 (0.9)	265 (2.3)	42 (1.1)	259 (1.2)	38 (1.2)	252 (1.5)
Louisiana	21 (1.0)	252 (2.2)	40 (1.0)	247 (1.5)	39 (1.2)	244 (1.4)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	22 (1.0)	266 (2.1)	38 (1.1)	261 (1.7)	39 (1.2)	258 (1.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	18 (0.8)	273 (2.4)	43 (1.1)	266 (1.5)	39 (1.3)	260 (1.5)
Minnesota	16 (1.0)	289 (2.2)	40 (1.1)	279 (1.1)	44 (1.3)	268 (1.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	19 (1.0)	288 (1.8)	43 (1.3)	280 (1.5)	38 (1.4)	265 (1.5)
New Hampshire	16 (1.0)	284 (2.0)	41 (1.3)	276 (1.4)	42 (1.2)	267 (1.1)
New Jersey	19 (1.0)	275 (2.4)	44 (1.4)	273 (1.3)	37 (1.5)	264 (1.3)
New Mexico	18 (0.9)	266 (1.8)	41 (1.1)	258 (1.3)	41 (1.3)	251 (1.1)
New York	20 (0.9)	269 (2.1)	44 (1.0)	262 (1.8)	36 (1.2)	258 (1.6)
North Carolina	23 (0.9)	257 (1.8)	42 (0.9)	251 (1.2)	35 (1.1)	247 (1.5)
North Dakota	15 (1.0)	292 (2.8)	43 (1.7)	285 (1.9)	42 (1.4)	274 (1.3)
Ohio	22 (1.0)	271 (1.9)	42 (1.0)	266 (1.2)	36 (1.2)	258 (1.3)
Oklahoma	19 (0.9)	271 (2.0)	44 (1.5)	265 (1.7)	37 (1.3)	257 (1.5)
Pennsylvania	17 (0.9)	273 (2.5)	43 (1.2)	269 (1.8)	39 (1.5)	261 (1.7)
Rhode Island	17 (0.8)	264 (2.0)	40 (1.0)	263 (1.1)	43 (1.1)	258 (1.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	20 (1.1)	268 (2.2)	41 (1.2)	259 (1.8)	39 (1.2)	254 (1.6)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx	xxx (xxx)	xxx (xxx)
Virginia	19 (0.8)	269 (2.0)	39 (1.1)	267 (1.9)	41 (1.2)	260 (1.6)
West Virginia	19 (1.1)	267 (1.9)	41 (1.1)	257 (1.3)	40 (1.1)	250 (1.4)
Wisconsin	21 (1.1)	283 (2.2)	44 (1.2)	277 (1.4)	36 (1.3)	266 (1.7)
Wyoming	15 (0.7)	286 (1.6)	40 (1.0)	276 (0.8)	45 (0.9)	264 (0.9)
TERRITORIES						
Guam	19 (1.1)	243 (2.3)	41 (1.2)	235 (1.6)	41 (1.2)	229 (1.6)
Virgin Islands	25 (1.3)	226 (1.9)	39 (1.6)	218 (1.7)	36 (1.5)	215 (1.3)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 6.7 Students' Responses to the Statement "I Am Good at Mathematics," Grades 4, 8, and 12

	Assessment Years	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	--	--	65 (0.8)	224 (0.9)>	35 (0.8)	209 (0.8)>
	1990	--	--	64 (1.0)	219 (1.0)	36 (1.0)	204 (1.4)
White	1992	--	--	66 (0.9)	232 (1.1)>	34 (0.9)	217 (1.0)>
	1990	--	--	66 (1.3)	225 (1.1)	34 (1.3)	212 (1.6)
Black	1992	--	--	64 (2.0)	196 (1.7)	36 (2.0)	185 (1.7)
	1990	--	--	62 (2.1)	195 (1.7)	38 (2.1)	182 (2.6)
Hispanic	1992	--	--	61 (1.7)	207 (1.4)	39 (1.7)	193 (2.0)
	1990	--	--	57 (2.3)	206 (2.6)	43 (2.3)	191 (2.1)
Asian/Pac. Islander	1992	--	--	62 (4.4)	238 (2.9)	38 (4.4)	221 (3.6)
	1990	--	--	54 (5.9)	234 (4.2)	46 (5.9)	220 (5.5)
American Indian	1992	--	--	57 (3.9)	213 (4.4)	43 (3.9)	206 (3.3)
	1990	--	--	54 (5.4)	214 (5.0)	46 (5.4)	198 (5.3)
Male	1992	--	--	70 (0.9)	225 (1.0)>	30 (0.9)	208 (1.1)>
	1990	--	--	68 (1.2)	220 (1.2)	32 (1.2)	202 (2.1)
Female	1992	--	--	59 (1.1)	223 (1.3)>	41 (1.1)	210 (1.1)
	1990	--	--	60 (1.6)	218 (1.3)	40 (1.6)	206 (1.7)
Grade 8							
Nation	1992	15 (0.6)	282 (1.7)	45 (0.6)	275 (1.0)	40 (0.7)	256 (1.1)>
	1990	18 (1.0)	275 (2.5)	44 (1.0)	271 (1.4)	38 (1.3)	250 (1.5)
White	1992	15 (0.7)	293 (2.0)	46 (0.7)	283 (1.0)>	39 (0.9)	265 (1.2)
	1990	16 (1.2)	285 (3.1)	45 (1.3)	278 (1.4)	39 (1.6)	257 (1.6)
Black	1992	18 (1.6)<	244 (2.3)	44 (1.6)	242 (2.1)	38 (1.8)	229 (2.0)
	1990	26 (2.2)	252 (4.4)	41 (2.6)	240 (3.1)	33 (3.2)	227 (3.3)
Hispanic	1992	12 (1.1)	266 (4.1)	39 (1.8)	256 (1.9)	49 (1.9)	236 (1.7)
	1990	15 (2.1)	260 (6.0)	38 (2.7)	256 (4.2)	46 (3.6)	233 (2.6)
Asian/Pac. Islander	1992	17 (2.5)	301 (6.3)	53 (3.8)	294 (7.0)	30 (3.2)	274 (6.1)
	1990	22 (4.8)	295 (8.3)	44 (6.2)	286 (5.6)	33 (8.1)	266 (9.5)
American Indian	1992	12 (3.7)	267 (6.9)	35 (5.5)	259 (5.2)	53 (6.7)	248 (3.0)
	1990	17 (4.7)	261(10.7)	40 (6.4)	255 (9.2)	42 (5.8)	232 (9.4)
Male	1992	19 (0.8)	283 (2.3)	47 (1.0)	273 (1.3)	34 (1.0)	253 (1.5)
	1990	21 (1.3)	277 (3.1)	45 (1.3)	270 (1.7)	34 (1.6)	248 (2.0)
Female	1992	11 (0.7)	281 (2.6)	43 (0.9)	276 (1.3)	46 (1.1)	258 (1.2)>
	1990	14 (1.1)	273 (3.1)	43 (1.5)	271 (1.8)	43 (1.9)	251 (1.6)
Grade 12							
Nation	1992	12 (0.5)<	320 (1.8)	39 (0.6)<	308 (1.0)>	50 (0.7)>	287 (0.9)
	1990	15 (0.9)	322 (2.2)	43 (1.1)	300 (1.4)	42 (1.1)	280 (1.2)
White	1992	12 (0.6)<	329 (1.9)	39 (0.8)<	314 (1.0)>	49 (0.8)>	292 (0.9)>
	1990	15 (1.0)	329 (2.3)	43 (1.2)	305 (1.4)	42 (1.3)	287 (1.3)
Black	1992	13 (1.1)	291 (4.0)	37 (1.4)	280 (1.9)	49 (1.7)	267 (1.8)>
	1990	18 (2.2)	287 (4.1)	40 (3.2)	274 (2.9)	43 (2.7)	257 (2.8)
Hispanic	1992	10 (1.4)	295 (5.2)	36 (2.2)	293 (2.4)	54 (2.1)	275 (2.0)>
	1990	10 (1.7)	300 (7.4)	41 (3.2)	289 (2.7)	50 (3.3)	261 (4.0)
Asian/Pac. Islander	1992	12 (2.9)	331 (6.2)	45 (2.8)	323 (3.5)	43 (3.5)	303 (5.1)
	1990	21 (8.3)	342 (6.6)	41 (5.4)	315 (6.2)	38 (7.4)	295 (4.1)
American Indian	1992	16 (9.7)	299(27.5)	24 (9.5)	293(15.4)	60 (6.2)	272 (9.6)
	1990	26(12.8)	310(18.2)	40(10.4)	286(14.5)	35(13.3)	273(16.3)
Male	1992	15 (0.8)<	322 (2.4)	41 (1.0)	308 (1.3)>	44 (0.8)>	288 (1.2)>
	1990	19 (1.2)	325 (3.1)	44 (1.2)	302 (1.8)	37 (1.4)	280 (1.6)
Female	1992	9 (0.6)	317 (2.7)	36 (0.9)<	308 (1.3)>	55 (0.9)>	286 (0.9)>
	1990	12 (1.0)	316 (2.5)	42 (1.7)	298 (1.8)	47 (1.5)	281 (1.6)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Percentages may not total 100 percent due to rounding error.

TABLE 6.8 | Students' Responses to the Statement "I Am Good at Mathematics"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Agree		Undecided or Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	65 (0.9)	223 (1.0)	35 (0.9)	208 (1.0)
Northeast	68 (2.2)	230 (2.6)	32 (2.2)	210 (2.2)
Southeast	65 (1.7)	214 (2.2)	35 (1.7)	200 (2.0)
Central	64 (1.7)	228 (2.4)	36 (1.7)	212 (2.0)
West	63 (1.2)	223 (2.1)	37 (1.2)	209 (2.1)
STATES				
Alabama	62 (1.4)	212 (1.7)	38 (1.4)	199 (1.8)
Arizona	62 (1.2)	221 (1.1)	38 (1.2)	203 (1.4)
Arkansas	64 (1.3)	214 (1.0)	36 (1.3)	201 (1.4)
California	61 (1.2)	216 (1.6)	39 (1.2)	197 (1.9)
Colorado	64 (1.0)	226 (1.1)	36 (1.0)	210 (1.3)
Connecticut	65 (1.2)	232 (1.3)	35 (1.2)	215 (1.3)
Delaware	70 (1.0)	222 (1.0)	30 (1.0)	205 (1.4)
Dist. Columbia	61 (1.0)	197 (0.8)	39 (1.0)	185 (1.0)
Florida	67 (1.1)	218 (1.4)	33 (1.1)	203 (2.3)
Georgia	68 (0.9)	219 (1.3)	32 (0.9)	205 (1.5)
Hawaii	54 (1.1)	221 (1.4)	46 (1.1)	205 (1.7)
Idaho	59 (1.1)	226 (1.0)	41 (1.1)	213 (1.3)
Indiana	66 (1.1)	224 (1.2)	34 (1.1)	212 (1.2)
Iowa	62 (1.0)	235 (1.2)	38 (1.0)	219 (1.3)
Kentucky	58 (1.2)	220 (1.2)	42 (1.2)	206 (1.1)
Louisiana	66 (1.0)	208 (1.5)	34 (1.0)	197 (1.5)
Maine	61 (1.4)	237 (1.1)	39 (1.4)	223 (1.4)
Maryland	63 (1.1)	223 (1.5)	37 (1.1)	206 (1.3)
Massachusetts	64 (1.4)	232 (1.2)	36 (1.4)	215 (1.8)
Michigan	65 (1.1)	225 (1.8)	35 (1.1)	209 (2.1)
Minnesota	65 (1.2)	233 (0.9)	35 (1.2)	218 (1.3)
Mississippi	64 (0.9)	205 (1.1)	36 (0.9)	194 (1.4)
Missouri	66 (0.9)	226 (1.3)	34 (0.9)	213 (1.3)
Nebraska	62 (1.3)	230 (1.3)	38 (1.3)	215 (1.7)
New Hampshire	63 (1.4)	235 (1.4)	37 (1.4)	219 (1.4)
New Jersey	70 (1.2)	231 (1.5)	30 (1.2)	215 (1.9)
New Mexico	60 (1.3)	218 (1.7)	40 (1.3)	203 (1.6)
New York	67 (1.3)	224 (1.3)	33 (1.3)	206 (1.7)
North Carolina	66 (1.0)	217 (1.3)	34 (1.0)	202 (1.3)
North Dakota	59 (1.4)	234 (1.0)	41 (1.4)	218 (0.9)
Ohio	64 (1.1)	224 (1.1)	36 (1.1)	207 (1.8)
Oklahoma	64 (1.3)	224 (1.2)	36 (1.3)	211 (1.5)
Pennsylvania	69 (1.1)	229 (1.4)	31 (1.1)	212 (1.7)
Rhode Island	65 (1.3)	220 (1.6)	35 (1.3)	204 (1.8)
South Carolina	69 (0.9)	216 (1.3)	31 (0.9)	202 (1.1)
Tennessee	62 (1.2)	216 (1.4)	39 (1.2)	201 (1.8)
Texas	61 (1.1)	223 (1.3)	39 (1.1)	208 (1.6)
Utah	61 (1.0)	229 (1.1)	39 (1.0)	215 (1.2)
Virginia	68 (0.9)	225 (1.4)	32 (0.9)	210 (1.7)
West Virginia	67 (1.1)	220 (1.2)	33 (1.1)	203 (1.4)
Wisconsin	65 (1.3)	233 (1.1)	35 (1.3)	218 (1.5)
Wyoming	65 (0.9)	229 (1.0)	35 (0.9)	216 (1.2)
TERRITORY				
Guam	38 (1.0)	201 (1.3)	62 (1.0)	186 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

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TABLE 6.8 | Students' Responses to the Statement "I Am Good at Mathematics"(continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	15 (0.7)	280 (1.8)	45 (0.7)	273 (1.1)	40 (0.8)	255 (1.1)
Northeast	15 (1.1)	282 (4.1)	45 (1.9)	275 (3.1)	40 (1.7)	257 (3.3)
Southeast	15 (1.6)	266 (2.4)	45 (1.2)	265 (1.9)	40 (1.5)	248 (1.5)
Central	19 (1.4)	286 (2.5)	47 (1.3)	277 (2.7)	34 (1.4)	260 (2.9)
West	13 (1.1)	286 (4.3)	42 (1.6)	275 (2.0)	45 (1.9)	255 (1.8)
STATES						
Alabama	14 (0.9)	263 (3.0)	43 (1.1)<	258 (1.8)	43 (1.5)»	242 (1.9)
Arizona	13 (0.7)	280 (2.2)	44 (1.1)	273 (1.7)>	43 (1.3)	252 (1.2)
Arkansas	16 (0.9)	262 (2.1)	45 (1.1)	261 (1.5)	39 (1.1)	248 (1.6)
California	14 (0.8)	280 (2.8)	43 (1.1)	269 (1.8)	44 (1.2)	248 (1.6)>
Colorado	15 (0.7)	288 (2.4)	49 (1.0)	279 (1.1)>	35 (1.1)	256 (1.3)
Connecticut	17 (0.8)	284 (2.3)	48 (1.1)<	280 (1.2)>	35 (1.2)	259 (1.6)
Delaware	18 (1.0)	271 (2.6)	46 (1.0)	268 (1.3)	36 (1.1)	252 (1.6)
Dist. Columbia	27 (1.3)	244 (1.5)	47 (1.4)	236 (1.4)	26 (1.1)	223 (1.8)
Florida	17 (0.8)	271 (2.3)	47 (1.1)	263 (1.8)	36 (1.1)	249 (1.7)>
Georgia	18 (0.9)	266 (2.5)	49 (1.3)	261 (1.5)	33 (1.2)	252 (1.3)
Hawaii	10 (0.8)	267 (2.6)	39 (1.0)	267 (1.5)»	51 (1.0)	248 (1.1)
Idaho	12 (0.7)	291 (2.3)	46 (1.0)<	282 (0.9)>	42 (1.2)	262 (1.1)>
Indiana	16 (0.8)	285 (2.7)	48 (1.3)	276 (1.1)	36 (1.3)	255 (1.6)
Iowa	15 (0.8)	301 (1.6)	49 (0.9)	288 (1.2)>	36 (1.2)	268 (1.3)
Kentucky	13 (0.8)	275 (2.8)	45 (1.1)<	269 (1.4)>	42 (1.2)»	250 (1.2)
Louisiana	17 (1.0)	256 (2.3)	44 (1.1)	254 (1.8)	39 (1.2)	242 (1.8)
Maine	14 (0.8)	294 (2.0)	47 (1.0)	285 (1.0)	39 (0.9)	264 (1.3)
Maryland	18 (0.9)<	273 (2.4)	45 (1.1)	269 (1.7)	36 (1.2)	255 (1.2)
Massachusetts	15 (0.8)	284 (2.7)	48 (1.1)	278 (1.3)	37 (1.1)	261 (1.2)
Michigan	16 (0.8)	279 (2.6)	47 (1.1)	273 (1.6)	37 (1.2)	255 (1.6)
Minnesota	13 (0.7)	301 (2.2)	50 (1.2)	288 (1.1)»	37 (1.5)	267 (1.2)>
Mississippi	16 (0.9)	254 (1.7)	47 (1.2)	250 (1.6)	37 (1.5)	237 (1.4)
Missouri	15 (0.8)	286 (2.3)	47 (1.2)	277 (1.2)	37 (1.4)	256 (1.4)
Nebraska	16 (0.9)	292 (2.1)	48 (1.3)	283 (1.3)	36 (1.5)	263 (1.4)
New Hampshire	15 (0.7)	290 (1.9)	49 (1.2)	283 (1.3)>	37 (1.3)	266 (1.3)>
New Jersey	16 (1.1)	285 (2.7)	50 (1.1)	277 (1.7)	34 (1.2)	257 (1.9)
New Mexico	12 (0.7)	279 (1.8)	42 (0.9)	267 (1.2)	45 (1.1)	246 (1.1)
New York	18 (1.1)	283 (3.2)>	48 (1.1)	271 (2.1)	34 (1.4)	252 (2.2)
North Carolina	18 (0.9)	268 (2.0)»	48 (1.1)	262 (1.6)>	34 (1.2)	248 (1.5)»
North Dakota	11 (0.7)	301 (2.2)	47 (1.3)	291 (1.3)	42 (1.4)	269 (1.3)
Ohio	15 (1.3)	284 (2.6)	47 (1.1)	275 (1.6)>	38 (1.3)>	254 (2.1)
Oklahoma	13 (0.9)	280 (2.3)	48 (1.3)	273 (1.3)	39 (1.1)	256 (1.4)>
Pennsylvania	16 (0.8)	282 (2.5)	50 (1.0)	275 (1.6)	34 (1.1)	259 (1.6)
Rhode Island	14 (0.8)	276 (2.5)	47 (1.2)	270 (1.3)	40 (1.0)>	256 (1.2)»
South Carolina	20 (1.0)	264 (2.4)	49 (1.2)	264 (1.4)	31 (1.2)	251 (1.4)
Tennessee	14 (0.9)	269 (2.7)	46 (1.0)	263 (1.7)	40 (1.3)	249 (1.5)
Texas	14 (1.0)	284 (2.2)	45 (1.3)	271 (1.8)»	41 (1.4)»	250 (1.6)
Utah	12 (0.8)	290 (2.1)	46 (1.0)	280 (1.0)	42 (1.0)	263 (1.0)
Virginia	16 (0.8)	278 (2.5)	49 (1.3)	272 (1.3)	35 (1.3)	256 (1.4)
West Virginia	14 (0.8)	273 (2.0)	48 (1.2)	263 (1.1)	38 (1.2)	248 (1.2)
Wisconsin	15 (0.9)	296 (2.2)	48 (1.1)	285 (1.5)	37 (1.1)	261 (1.7)
Wyoming	14 (0.7)	287 (2.0)	47 (1.0)	281 (1.0)	39 (1.2)	262 (1.0)>
TERRITORIES						
Guam	7 (0.7)	253 (5.0)	27 (1.3)	249 (1.7)	66 (1.4)	230 (1.3)
Virgin Islands	24 (1.1)	231 (1.8)	42 (1.4)	225 (1.4)	34 (1.2)	212 (1.7)>

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 6.8 | Students' Responses to the Statement "I Am Good at Mathematics"(continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	18 (1.1)	275 (2.6)	44 (1.1)	270 (1.5)	38 (1.4)	249 (1.6)
Northeast	18 (3.3)	279 (5.6)!	45 (2.7)	277 (4.6)	37 (3.6)	258 (4.9)
Southeast	19 (2.2)	264 (5.7)	43 (1.5)	263 (2.9)	38 (3.0)	244 (3.8)
Central	15 (1.7)	275 (3.8)	50 (3.3)	272 (2.3)	35 (3.2)	253 (2.6)
West	19 (2.1)	281 (4.8)	40 (1.3)	269 (2.8)	41 (1.9)	246 (1.7)
STATES						
Alabama	17 (1.1)	264 (2.0)	48 (1.4)	258 (1.3)	35 (1.8)	241 (1.4)
Arizona	14 (0.8)	280 (2.2)	45 (1.2)	267 (1.3)	41 (1.4)	247 (1.6)
Arkansas	16 (0.7)	266 (2.2)	47 (1.0)	263 (1.0)	37 (1.1)	244 (1.1)
California	13 (0.8)	278 (2.5)	45 (0.9)	265 (1.4)	42 (1.0)	242 (1.6)
Colorado	15 (0.8)	286 (1.5)	49 (1.0)	274 (1.1)	36 (1.2)	252 (1.2)
Connecticut	16 (0.9)	284 (2.4)	53 (1.0)	275 (1.2)	32 (1.2)	256 (1.4)
Delaware	20 (0.9)	271 (1.8)	46 (1.4)	265 (1.2)	34 (1.1)	250 (1.5)
Dist. Columbia	28 (1.1)	239 (2.2)	47 (1.3)	234 (1.2)	25 (0.8)	223 (2.0)
Florida	18 (0.8)	268 (2.4)	47 (1.1)	261 (1.4)	36 (1.2)	243 (1.5)
Georgia	17 (0.8)	266 (2.5)	49 (1.0)	265 (1.7)	34 (1.1)	249 (1.7)
Hawaii	10 (0.7)	263 (3.0)	38 (0.9)	259 (1.1)	52 (1.0)	245 (1.1)
Idaho	12 (0.8)	289 (2.4)	50 (1.1)	278 (0.8)	38 (1.2)	257 (1.1)
Indiana	15 (0.9)	283 (2.1)	48 (1.1)	273 (1.5)	37 (1.2)	254 (1.3)
Iowa	16 (0.9)	296 (1.8)	48 (1.1)	283 (1.3)	36 (1.3)	264 (1.3)
Kentucky	14 (0.8)	270 (2.4)	50 (1.2)	262 (1.5)	36 (1.3)	246 (1.4)
Louisiana	16 (0.8)	259 (2.1)	45 (1.0)	251 (1.8)	40 (1.1)	238 (1.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	21 (0.9)	272 (2.1)	46 (0.9)	264 (1.7)	33 (1.2)	251 (1.8)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	17 (0.9)	278 (2.2)	50 (1.1)	270 (1.5)	33 (1.2)	251 (1.3)
Minnesota	13 (0.9)	297 (2.4)	49 (0.9)	282 (1.0)	38 (1.2)	261 (1.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	16 (0.8)	290 (2.1)	50 (1.1)	284 (1.0)	34 (1.1)	259 (1.5)
New Hampshire	15 (1.1)	293 (2.3)	50 (1.2)	277 (1.3)	35 (1.1)	261 (1.2)
New Jersey	17 (0.9)	282 (2.1)	51 (0.9)	275 (1.3)	32 (1.0)	257 (1.6)
New Mexico	11 (0.8)	277 (2.7)	45 (1.4)	266 (1.4)	44 (1.2)	243 (1.0)
New York	19 (1.0)	273 (2.0)	47 (1.1)	268 (1.5)	34 (1.3)	248 (1.9)
North Carolina	19 (0.8)	257 (1.9)	48 (1.0)	255 (1.3)	32 (1.2)	241 (1.[illegible])
North Dakota	11 (1.1)	307 (3.0)	50 (1.4)	287 (1.5)	39 (1.3)	268 (1.3)
Ohio	19 (1.0)	278 (2.1)	48 (1.1)	269 (1.2)	33 (1.2)	253 (1.2)
Oklahoma	15 (0.9)	278 (2.9)	47 (0.9)	270 (1.5)	39 (0.9)	251 (1.4)
Pennsylvania	17 (0.9)	276 (2.4)	48 (1.2)	273 (1.8)	35 (1.3)	255 (1.6)
Rhode Island	14 (0.7)	271 (2.4)	50 (1.1)	267 (0.9)	36 (1.1)	248 (0.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	16 (0.9)	276 (2.6)	48 (1.1)	263 (1.6)	36 (0.9)	247 (1.6)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	17 (0.7)	274 (2.5)	50 (1.1)	270 (1.6)	34 (1.1)	252 (1.6)
West Virginia	15 (0.8)	270 (1.7)	49 (1.1)	261 (1.2)	36 (1.3)	244 (1.3)
Wisconsin	17 (0.8)	290 (2.0)	50 (1.1)	280 (1.2)	33 (1.0)	259 (1.5)
Wyoming	12 (0.8)	291 (1.9)	49 (1.1)	278 (0.9)	39 (1.1)	259 (1.0)
TERRITORIES						
Guam	6 (0.7)	253 (4.5)	30 (1.2)	249 (2.1)	64 (1.1)	227 (1.0)
Virgin Islands	24 (1.4)	230 (2.2)	42 (1.6)	222 (1.4)	34 (1.6)	207 (1.0)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 6.9 Students' Responses to the Statement "Mathematics Is More for Boys than for Girls," Grades 4, 8, and 12

	Assessment Years	Strongly Disagree		Disagree		Undecided, Agree, or Strongly Agree	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	**1992**	--	--	77(0.6)<	223(0.8)>	23(0.6)>	209(1.0)>
	1990	--	--	82(0.8)	216(1.0)	18(0.8)	203(1.8)
White	**1992**	--	--	79(0.8)<	230(0.9)>	21(0.8)>	220(1.3)>
	1990	--	--	84(0.9)	222(1.2)	16(0.9)	213(2.2)
Black	**1992**	--	--	70(1.2)<	197(1.5)	30(1.2)>	183(2.0)
	1990	--	--	80(2.0)	192(1.9)	20(2.0)	182(3.7)
Hispanic	**1992**	--	--	72(1.2)	206(1.5)	28(1.2)	193(2.5)
	1990	--	--	72(2.3)	206(1.6)	28(2.3)	184(3.9)
Asian/Pac. Islander	**1992**	--	--	73(3.3)	237(2.6)	27(3.3)	219(5.7)
	1990	--	--	75(5.1)	231(4.7)	25(5.1)	218(7.9)
American Indian	**1992**	--	--	73(3.8)<	212(3.9)	27(3.8)>	208(4.9)
	1990	--	--	85(3.6)	210(3.9)	15(3.6)	190(9.3)
Male	**1992**	--	--	69(1.0)<	224(0.9)>	31(1.0)>	213(1.3)>
	1990	--	--	76(1.3)	217(1.5)	24(1.3)	206(2.3)
Female	**1992**	--	--	84(0.8)<	222(1.0)>	16(0.8)	201(1.5)
	1990	--	--	88(0.8)	215(1.2)	12(0.8)	197(3.3)
Grade 8							
Nation	**1992**	57 (0.7)>	274 (1.0)>	27 (0.6)<	264 (1.5)	16 (0.5)	260 (1.5)
	1990	52 (1.0)	267 (1.5)	33 (1.1)	262 (1.5)	16 (0.7)	255 (2.4)
White	**1992**	58 (1.0)>	281 (1.1)>	27 (0.8)<	274 (1.7)	15 (0.6)	270 (1.7)>
	1990	52 (1.3)	274 (1.6)	33 (1.3)	270 (2.0)	15 (0.9)	262 (2.8)
Black	**1992**	55 (1.5)	245 (2.0)	28 (1.7)	233 (2.8)	17 (1.5)	225 (3.2)
	1990	52 (2.5)	244 (3.5)	35 (2.3)	233 (3.1)	13 (1.6)	234 (6.0)
Hispanic	**1992**	52 (2.1)	254 (1.8)	29 (1.4)	244 (2.5)	19 (1.8)	237 (2.5)
	1990	49 (2.6)	251 (3.6)	33 (2.4)	244 (2.6)	18 (2.0)	237 (4.6)
Asian/Pac. Islander	**1992**	52 (3.6)	294 (5.9)	27 (3.2)	279 (6.4)	21 (2.9)	290 (7.6)
	1990	44 (4.6)	291 (6.0)	38 (4.4)	278 (5.0)	19 (3.3)	269(10.6)
American Indian	**1992**	62 (3.9)	257 (2.7)	28 (4.6)	252 (6.4)	10 (2.4)	241 (9.7)
	1990	44(17.8)	257 (5.9)	28 (4.5)	256(12.5)	28(14.7)	226(14.0)
Male	**1992**	47 (1.1)>	271 (1.5)	31 (0.9)<	268 (1.5)	22 (0.7)	264 (1.7)
	1990	42 (1.5)	266 (2.0)	37 (1.5)	266 (2.0)	22 (1.2)	259 (2.8)
Female	**1992**	68 (1.0)>	275 (1.1)>	23 (1.0)<	258 (2.0)	9 (0.6)	249 (2.3)
	1990	61 (1.6)	268 (1.5)	29 (1.3)	256 (1.9)	10 (0.9)	245 (3.4)
Grade 12							
Nation	**1992**	48 (1.0)	303 (1.0)>	30 (0.8)<	295 (1.1)	22 (0.8)>	295 (1.5)
	1990	48 (1.2)	299 (1.3)	35 (1.2)	292 (1.5)	18 (0.9)	292 (2.3)
White	**1992**	48 (1.0)	309 (1.1)>	30 (1.0)<	302 (1.2)	22 (0.9)>	302 (1.6)
	1990	48 (1.1)	305 (1.4)	35 (1.2)	298 (1.8)	17 (1.0)	298 (2.5)
Black	**1992**	47 (2.6)	279 (1.9)	32 (1.9)	272 (2.4)	21 (1.7)	271 (3.0)
	1990	48 (3.0)	272 (2.9)	33 (2.5)	266 (4.1)	19 (1.9)	265 (3.7)
Hispanic	**1992**	50 (2.2)	289 (2.1)	29 (1.6)<	282 (2.1)	21 (1.6)	274 (4.7)
	1990	42 (3.3)	280 (4.7)	40 (3.3)	275 (3.2)	18 (2.6)	273 (6.1)
Asian/Pac. Islander	**1992**	45 (3.9)	320 (4.0)	30 (3.6)	313 (4.7)	25 (3.3)	310 (4.9)
	1990	59 (9.6)	316 (6.2)	25 (7.2)	301(10.4)	16 (4.4)	322(10.8)
American Indian	**1992**	40 (7.8)	271(12.9)	25 (8.5)	280 (9.5)<	35(14.1)	295(13.7)
	1990	28(14.5)	280(29.3)	48(14.9)	312 (6.5)	24(12.3)	248(20.4)
Male	**1992**	34 (1.1)	302 (1.5)	33 (1.1)<	300 (1.4)	33 (1.1)>	300 (1.7)
	1990	34 (1.5)	300 (2.2)	38 (2.0)	298 (2.0)	27 (1.7)	297 (2.4)
Female	**1992**	60 (1.1)	304 (1.1)>	28 (1.0)	290 (1.3)	12 (0.6)>	282 (2.0)
	1990	59 (1.7)	299 (1.4)	32 (1.6)	286 (1.9)	9 (0.8)	277 (4.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Percentages may not total 100 percent due to rounding error.

TABLE 6.10 | Students' Responses to the Statement "Mathematics Is More for Boys than for Girls"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Disagree		Undecided or Agree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	76 (0.7)	222 (0.9)	24 (0.7)	208 (1.1)
Northeast	78 (1.9)	226 (2.2)	22 (1.9)	218 (3.0)
Southeast	72 (0.9)	214 (1.9)	28 (0.9)	199 (2.2)
Central	78 (1.4)	226 (1.9)	22 (1.4)	212 (3.1)
West	77 (1.1)	222 (1.8)	23 (1.1)	206 (1.6)
STATES				
Alabama	75 (0.9)	210 (1.6)	25 (0.9)	201 (2.0)
Arizona	75 (1.1)	219 (0.9)	25 (1.1)	202 (1.8)
Arkansas	74 (1.1)	212 (1.1)	26 (1.1)	201 (1.5)
California	72 (1.1)	215 (1.5)	28 (1.1)	195 (2.3)
Colorado	79 (0.7)	223 (1.0)	21 (0.7)	213 (1.8)
Connecticut	80 (0.9)	229 (1.1)	20 (0.9)	218 (2.2)
Delaware	73 (0.9)	219 (1.0)	27 (0.9)	212 (1.4)
Dist. Columbia	71 (0.9)	198 (0.8)	29 (0.9)	182 (1.0)
Florida	76 (0.9)	217 (1.6)	24 (0.9)	204 (1.9)
Georgia	72 (1.0)	219 (1.2)	28 (1.0)	206 (1.8)
Hawaii	69 (1.0)	218 (1.4)	31 (1.0)	205 (1.8)
Idaho	80 (0.8)	222 (1.1)	20 (0.8)	216 (1.6)
Indiana	79 (0.8)	221 (1.1)	21 (0.8)	215 (1.8)
Iowa	82 (0.7)	231 (1.1)	18 (0.7)	223 (1.8)
Kentucky	73 (1.0)	216 (1.1)	27 (1.0)	210 (1.4)
Louisiana	74 (1.0)	207 (1.3)	26 (1.0)	196 (2.2)
Maine	85 (0.9)	234 (1.0)	15 (0.9)	219 (1.9)
Maryland	79 (0.9)	220 (1.2)	21 (0.9)	204 (2.4)
Massachusetts	83 (0.8)	228 (1.3)	17 (0.8)	216 (2.0)
Michigan	76 (1.0)	223 (1.6)	24 (1.0)	210 (2.6)
Minnesota	79 (1.0)	230 (0.9)	21 (1.0)	221 (2.1)
Mississippi	69 (1.1)	205 (1.0)	31 (1.1)	191 (1.7)
Missouri	78 (1.0)	224 (1.1)	22 (1.0)	213 (2.1)
Nebraska	82 (0.9)	227 (1.2)	18 (0.9)	217 (2.4)
New Hampshire	85 (0.9)	230 (1.2)	15 (0.9)	224 (2.5)
New Jersey	79 (1.0)	229 (1.5)	21 (1.0)	218 (2.5)
New Mexico	77 (1.3)	215 (1.6)	23 (1.3)	206 (1.9)
New York	78 (1.1)	221 (1.3)	22 (1.1)	209 (1.8)
North Carolina	73 (0.8)	216 (1.2)	27 (0.8)	204 (1.4)
North Dakota	78 (1.2)	229 (0.8)	22 (1.2)	223 (1.9)
Ohio	77 (0.9)	219 (1.2)	23 (0.9)	214 (1.9)
Oklahoma	77 (0.8)	220 (1.0)	23 (0.8)	216 (1.7)
Pennsylvania	76 (0.9)	226 (1.3)	24 (0.9)	218 (2.0)
Rhode Island	81 (0.9)	218 (1.5)	19 (0.9)	203 (2.6)
South Carolina	73 (1.0)	214 (1.1)	27 (1.0)	205 (1.9)
Tennessee	74 (0.8)	214 (1.4)	26 (0.8)	201 (1.8)
Texas	73 (1.2)	220 (1.3)	27 (1.2)	211 (1.9)
Utah	80 (1.0)	226 (1.0)	20 (1.0)	216 (1.7)
Virginia	75 (1.2)	223 (1.4)	25 (1.2)	213 (1.6)
West Virginia	77 (0.8)	216 (1.1)	23 (0.8)	211 (1.8)
Wisconsin	80 (0.8)	230 (1.1)	20 (0.8)	222 (1.4)
Wyoming	83 (0.8)	226 (0.9)	17 (0.8)	220 (2.0)
TERRITORY				
Guam	57 (1.1)	199 (1.1)	43 (1.1)	184 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4 students were not given the "strongly agree" and "strongly disagree" options.

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TABLE 6.10 | Students' Responses to the Statement "Mathematics Is More for Boys than for Girls" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Disagree		Disagree		Undecided, Agree, or Strongly Agree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	56 (0.8)	272 (1.2)	28 (0.6)	263 (1.6)	16 (0.6)	258 (1.7)
Northeast	60 (2.7)	273 (3.3)	27 (1.7)	265 (5.6)	14 (1.4)	262 (4.4)
Southeast	52 (1.2)	264 (1.6)	29 (1.4)	254 (2.8)	19 (1.3)	252 (3.1)
Central	56 (1.2)	276 (2.4)	28 (0.8)	273 (2.8)	16 (0.8)	267 (2.5)
West	58 (1.2)	275 (2.2)	27 (0.7)	261 (2.7)	15 (1.0)	254 (3.5)
STATES						
Alabama	51 (1.0) >	256 (1.9)	31 (1.1) «	249 (1.9)	18 (0.8)	247 (2.7)
Arizona	57 (1.5)	269 (1.3) >	26 (1.3)	262 (1.6)	17 (0.9)	257 (2.1)
Arkansas	54 (0.9)	261 (1.2)	30 (0.8) <	252 (1.6)	16 (0.7)	250 (2.1)
California	55 (1.1)	270 (1.9) >	28 (1.1)	255 (1.8)	17 (0.8)	249 (2.5)
Colorado	61 (1.1)	277 (1.2) »	25 (0.8) «	265 (1.7)	14 (0.8)	267 (2.0) >
Connecticut	62 (1.0) >	278 (1.2)	24 (0.7) «	267 (2.0)	14 (0.8)	266 (2.6)
Delaware	57 (1.2)	268 (1.2)	27 (1.0) <	257 (2.0)	16 (0.9)	256 (2.4)
Dist. Columbia	53 (1.3)	240 (1.5)	27 (1.1) <	231 (1.5)	20 (1.1) >	229 (2.3)
Florida	57 (1.1) »	265 (1.6) >	27 (0.9) «	254 (1.8)	16 (0.6)	249 (2.7)
Georgia	55 (1.1) »	264 (1.3)	29 (0.9) «	253 (1.6)	17 (0.7)	254 (2.0)
Hawaii	48 (1.0)	267 (1.1) »	29 (0.9)	253 (1.3)	23 (0.8) >	244 (2.0)
Idaho	62 (1.0) »	277 (0.8) >	25 (0.9) «	273 (1.3)	13 (0.8)	268 (2.2)
Indiana	58 (1.1)	274 (1.4)	28 (1.2)	265 (1.4)	14 (0.7)	264 (2.2)
Iowa	62 (1.0)	286 (1.1) »	25 (0.8) <	279 (1.5)	13 (0.7)	277 (2.0)
Kentucky	52 (1.1)	267 (1.3) >	29 (0.9) «	258 (1.3)	18 (0.8)	254 (2.1)
Louisiana	52 (1.4)	255 (1.7)	31 (1.0)	246 (2.0)	18 (0.9)	243 (2.5)
Maine	65 (1.1)	282 (1.1)	23 (0.8)	273 (1.5)	12 (0.8)	268 (2.4)
Maryland	60 (1.2) >	269 (1.3)	26 (0.9) «	259 (1.9)	14 (0.8)	260 (2.0)
Massachusetts	65 (1.1)	276 (1.2)	25 (1.1)	266 (1.8)	10 (0.6)	265 (3.1)
Michigan	62 (0.9) >	270 (1.4)	24 (0.9) «	262 (2.1)	14 (0.8)	263 (2.5)
Minnesota	59 (1.3)	286 (1.0) »	27 (0.9) «	279 (1.5) >	14 (0.9)	269 (2.2)
Mississippi	50 (1.3)	252 (1.4)	32 (1.1)	240 (1.5)	18 (1.0)	243 (2.0)
Missouri	57 (1.0)	274 (1.3)	29 (0.9)	268 (1.6)	15 (0.8)	264 (2.2)
Nebraska	58 (1.2)	280 (1.3)	27 (0.9)	275 (1.9)	15 (0.9)	272 (2.2)
New Hampshire	67 (0.9)	281 (1.1) >	23 (0.8) <	271 (1.5)	10 (0.7)	270 (2.0)
New Jersey	64 (1.1) »	275 (1.6)	23 (1.1) «	266 (2.2)	13 (0.8)	269 (2.8)
New Mexico	51 (1.0)	264 (1.1)	31 (0.9)	255 (1.2)	19 (0.8) »	254 (1.8)
New York	59 (1.3)	274 (1.6) »	28 (1.1)	258 (2.9)	13 (0.8)	258 (4.2)
North Carolina	54 (1.2)	263 (1.2) »	29 (1.0) <	253 (1.8) >	17 (1.0)	254 (2.2) >
North Dakota	60 (1.0)	286 (1.1)	26 (1.0)	279 (1.7)	14 (0.7)	277 (2.8)
Ohio	56 (1.1)	272 (1.7)	27 (1.0) «	262 (1.9)	17 (0.8)	263 (2.7)
Oklahoma	55 (1.4)	270 (1.4)	30 (1.5)	267 (1.8) >	15 (0.8)	260 (2.4)
Pennsylvania	58 (1.1)	276 (1.6)	27 (1.0) <	266 (2.0)	15 (0.7)	262 (2.6)
Rhode Island	60 (1.2)	270 (1.1) »	27 (1.4)	260 (1.4)	12 (0.8)	258 (2.9)
South Carolina	56 (1.1)	264 (1.1)	27 (0.9)	256 (1.2)	18 (0.8)	256 (2.1)
Tennessee	51 (1.1)	263 (1.5)	31 (1.1)	254 (1.6)	18 (0.9)	256 (2.6)
Texas	55 (0.9)	271 (1.5) >	28 (1.0) <	259 (2.2)	17 (0.8)	256 (2.2)
Utah	58 (1.1)	277 (0.9)	28 (1.0)	271 (1.1)	14 (0.7)	270 (1.6)
Virginia	55 (1.0)	272 (1.4)	28 (0.9) <	263 (1.6)	18 (0.8)	261 (1.9)
West Virginia	56 (1.1)	264 (1.2) >	27 (1.1) <	252 (1.3)	17 (0.8)	253 (1.6)
Wisconsin	61 (1.4)	281 (1.5)	26 (1.0)	276 (1.5)	13 (0.9)	266 (3.1)
Wyoming	59 (1.1)	278 (0.8) »	25 (0.9) <	271 (1.6)	15 (0.9)	266 (1.7)
TERRITORIES						
Guam	41 (1.4)	250 (1.9) >	27 (1.1) <	236 (2.0) >	32 (1.2) »	226 (2.2)
Virgin Islands	50 (1.7)	228 (1.6)	29 (1.1)	218 (2.0)	21 (1.2)	217 (1.8)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 6.10 | Students' Responses to the Statement "Mathematics Is More for Boys than for Girls" (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Strongly Disagree		Disagree		Undecided, Agree, or Strongly Agree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	51 (1.1)	267 (1.6)	33 (1.1)	261 (1.6)	16 (0.7)	254 (2.6)
Northeast	57 (2.4)	273 (2.6)	29 (2.7)	268 (6.4)	14 (1.4)	266 (6.2)
Southeast	45 (2.6)	263 (3.6)	36 (2.0)	251 (2.4)	19 (1.4)	249 (4.9)
Central	52 (1.9)	268 (3.2)	34 (1.5)	265 (2.3)	13 (1.6)	252 (2.8)
West	50 (1.9)	264 (3.1)	33 (2.3)	262 (3.2)	16 (1.5)	253 (5.3)
STATES						
Alabama	47 (1.1)	258 (1.2)	37 (1.0)	249 (1.6)	16 (0.8)	249 (2.1)
Arizona	55 (1.1)	265 (1.3)	29 (0.9)	257 (1.8)	16 (0.8)	253 (2.3)
Arkansas	50 (1.3)	260 (1.1)	34 (1.1)	255 (1.2)	15 (0.7)	250 (2.1)
California	54 (1.2)	263 (1.4)	30 (1.0)	251 (1.9)	16 (0.8)	251 (2.5)
Colorado	58 (1.1)	271 (1.1)	30 (1.1)	265 (1.4)	12 (0.7)	260 (1.8)
Connecticut	57 (1.2)	275 (1.1)	30 (1.1)	266 (1.5)	13 (0.7)	263 (1.9)
Delaware	54 (1.7)	265 (1.6)	31 (0.9)	260 (1.8)	16 (1.5)	250 (1.9)
Dist. Columbia	53 (1.0)	238 (1.1)	32 (1.0)	228 (1.6)	15 (0.8)	224 (2.2)
Florida	49 (1.0)	259 (1.5)	35 (1.0)	254 (1.8)	16 (0.8)	252 (2.3)
Georgia	47 (1.0)	263 (1.5)	35 (0.9)	257 (1.6)	17 (0.8)	255 (2.7)
Hawaii	49 (1.1)	259 (1.1)	31 (0.9)	249 (1.3)	20 (0.8)	241 (2.0)
Idaho	56 (1.3)	274 (1.0)	30 (1.2)	271 (1.3)	13 (0.9)	267 (1.7)
Indiana	56 (1.1)	270 (1.5)	31 (1.3)	266 (1.6)	13 (0.7)	260 (2.3)
Iowa	59 (1.0)	280 (1.2)	30 (1.0)	276 (1.3)	12 (0.7)	273 (2.1)
Kentucky	49 (1.2)	261 (1.2)	35 (1.0)	255 (1.4)	16 (0.7)	253 (2.7)
Louisiana	49 (1.3)	251 (1.4)	34 (1.3)	242 (1.5)	17 (1.0)	246 (2.0)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	54 (1.2)	265 (1.6)	31 (0.9)	259 (1.8)	15 (0.8)	253 (2.7)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	58 (1.2)	270 (1.2)	29 (0.9)	259 (1.5)	14 (0.9)	259 (2.4)
Minnesota	55 (1.2)	278 (1.1)	33 (1.0)	275 (1.3)	12 (0.7)	267 (2.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	57 (1.4)	279 (1.1)	30 (1.3)	274 (1.6)	13 (0.9)	269 (2.6)
New Hampshire	64 (1.0)	277 (1.2)	27 (0.8)	269 (1.9)	10 (0.7)	267 (2.5)
New Jersey	57 (0.9)	273 (1.2)	30 (0.8)	267 (1.8)	14 (0.7)	270 (2.4)
New Mexico	54 (1.5)	262 (1.2)	32 (1.3)	253 (1.2)	14 (0.8)	249 (2.2)
New York	55 (1.5)	266 (1.4)	30 (1.2)	260 (1.9)	15 (1.0)	256 (3.1)
North Carolina	51 (1.1)	256 (1.3)	33 (0.8)	246 (1.4)	16 (0.7)	246 (1.7)
North Dakota	57 (1.4)	284 (1.3)	30 (1.4)	280 (2.1)	12 (0.8)	271 (2.6)
Ohio	54 (1.2)	268 (1.2)	32 (1.0)	260 (1.7)	14 (0.8)	259 (1.8)
Oklahoma	55 (1.0)	266 (1.4)	32 (1.1)	261 (1.8)	13 (0.7)	259 (2.4)
Pennsylvania	55 (1.1)	271 (1.6)	32 (1.0)	262 (2.1)	13 (0.7)	262 (2.2)
Rhode Island	57 (1.2)	264 (0.9)	31 (1.1)	257 (1.5)	12 (0.7)	254 (2.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	53 (1.1)	264 (1.3)	32 (1.0)	255 (1.9)	16 (0.9)	252 (2.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	53 (1.0)	269 (1.6)	31 (0.9)	263 (2.0)	16 (0.8)	256 (2.3)
West Virginia	53 (1.2)	260 (1.0)	31 (1.1)	253 (1.6)	16 (0.7)	253 (1.6)
Wisconsin	59 (1.2)	277 (1.4)	30 (1.1)	273 (1.5)	11 (0.6)	268 (2.1)
Wyoming	57 (1.1)	274 (0.9)	30 (1.0)	272 (1.1)	14 (0.7)	266 (1.6)
TERRITORIES						
Guam	43 (1.6)	244 (1.3)	32 (1.5)	229 (1.5)	25 (1.3)	228 (2.0)
Virgin Islands	49 (1.4)	223 (1.3)	31 (1.6)	217 (1.5)	20 (1.1)	213 (2.1)

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TABLE 6.11 | Student's Response to the Statement "Mathematics Is More for Boys than for Girls", by Gender

PUBLIC SCHOOLS	Grade 4 - 1992, Disagree				Grade 4 - 1992, Undecided or Agree			
	Male		Female		Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	69 (1.1)	223 (0.9)	84 (0.9)	221 (1.2)	31 (1.1)	212 (1.4)	16 (0.9)	200 (1.6)
Northeast	70 (3.1)	229 (2.4)	85 (1.5)	224 (2.9)	30 (3.1)	223 (2.9)	15 (1.5)	209 (4.7)
Southeast	64 (1.6)	213 (1.6)	80 (1.9)	214 (2.6)	36 (1.6)	204 (2.2)	20 (1.9)	191 (3.4)
Central	70 (2.2)	229 (2.2)	86 (1.7)	223 (2.5)	30 (2.2)	214 (4.6)	14 (1.7)	206 (3.1)
West	70 (1.6)	222 (1.9)	85 (1.8)	222 (2.2)	30 (1.6)	209 (2.3)	15 (1.8)	199 (3.1)
STATES								
Alabama	69 (1.3)	210 (2.0)	82 (1.1)	210 (1.7)	31 (1.3)	204 (2.3)	18 (1.1)	194 (2.3)
Arizona	69 (1.4)	220 (1.1)	82 (1.3)	218 (1.1)	31 (1.4)	203 (2.2)	18 (1.3)	201 (2.4)
Arkansas	69 (1.4)	213 (1.4)	80 (1.2)	212 (1.2)	31 (1.4)	204 (1.8)	20 (1.2)	195 (2.1)
California	68 (1.4)	215 (2.0)	76 (1.6)	215 (1.5)	32 (1.4)	198 (2.7)	24 (1.6)	190 (2.6)
Colorado	73 (1.2)	224 (1.3)	85 (1.0)	222 (1.1)	27 (1.2)	216 (2.1)	15 (1.0)	206 (2.3)
Connecticut	74 (1.5)	230 (1.4)	86 (0.8)	228 (1.2)	26 (1.5)	222 (2.4)	14 (0.8)	209 (2.9)
Delaware	66 (1.5)	221 (1.6)	81 (1.4)	218 (1.3)	34 (1.5)	215 (1.9)	19 (1.4)	207 (2.5)
Dist. Columbia	64 (1.4)	199 (1.2)	77 (1.0)	197 (1.1)	36 (1.4)	185 (1.3)	23 (1.0)	177 (2.0)
Florida	70 (1.4)	218 (1.9)	82 (1.0)	216 (1.8)	30 (1.4)	209 (2.2)	18 (1.0)	197 (2.1)
Georgia	64 (1.4)	219 (1.6)	81 (1.1)	219 (1.3)	36 (1.4)	207 (2.5)	19 (1.1)	203 (2.0)
Hawaii	62 (1.5)	218 (2.0)	76 (1.1)	219 (1.2)	38 (1.5)	206 (2.2)	24 (1.1)	204 (2.1)
Idaho	74 (1.2)	224 (1.3)	85 (1.1)	221 (1.2)	26 (1.2)	220 (2.0)	15 (1.1)	209 (2.9)
Indiana	73 (1.3)	222 (1.5)	85 (1.0)	221 (1.1)	27 (1.3)	219 (2.3)	15 (1.0)	206 (2.2)
Iowa	77 (1.1)	232 (1.2)	87 (0.8)	230 (1.4)	23 (1.1)	226 (2.2)	13 (0.8)	219 (2.4)
Kentucky	66 (1.2)	216 (1.4)	80 (1.2)	216 (1.3)	34 (1.2)	212 (1.9)	20 (1.2)	207 (2.0)
Louisiana	68 (1.6)	208 (1.6)	80 (1.2)	207 (1.6)	32 (1.6)	197 (2.4)	20 (1.2)	193 (2.7)
Maine	82 (1.6)	235 (1.3)	89 (1.0)	233 (1.2)	18 (1.6)	223 (2.3)	11 (1.0)	213 (3.4)
Maryland	72 (1.3)	223 (1.4)	86 (0.9)	218 (1.5)	28 (1.3)	209 (2.4)	14 (0.9)	195 (3.4)
Massachusetts	78 (1.2)	230 (1.5)	88 (1.0)	227 (1.4)	22 (1.2)	222 (2.4)	12 (1.0)	206 (2.7)
Michigan	69 (1.3)	225 (1.7)	82 (1.1)	220 (1.8)	31 (1.3)	216 (2.8)	18 (1.1)	200 (3.4)
Minnesota	72 (1.4)	231 (1.1)	87 (1.2)	229 (1.2)	28 (1.4)	223 (2.1)	13 (1.2)	215 (3.0)
Mississippi	61 (1.5)	204 (1.3)	78 (1.3)	206 (1.2)	39 (1.5)	193 (1.9)	22 (1.3)	188 (2.4)
Missouri	71 (1.5)	224 (1.4)	84 (1.3)	224 (1.1)	29 (1.5)	216 (2.5)	16 (1.3)	209 (2.6)
Nebraska	77 (1.3)	228 (1.3)	86 (1.3)	226 (1.6)	23 (1.3)	221 (2.8)	14 (1.3)	209 (3.6)
New Hampshire	80 (1.4)	231 (1.5)	89 (1.1)	230 (1.2)	20 (1.4)	227 (2.7)	11 (1.1)	219 (3.4)
New Jersey	70 (1.8)	230 (1.7)	88 (1.0)	228 (1.7)	30 (1.8)	222 (2.9)	12 (1.0)	208 (2.9)
New Mexico	72 (1.8)	215 (1.8)	80 (1.3)	214 (1.7)	28 (1.8)	207 (2.6)	20 (1.3)	205 (2.4)
New York	73 (1.2)	225 (1.5)	83 (1.4)	218 (1.5)	27 (1.2)	216 (2.3)	17 (1.4)	197 (2.6)
North Carolina	67 (1.1)	214 (1.5)	79 (1.0)	217 (1.4)	33 (1.1)	208 (1.5)	21 (1.0)	197 (2.5)
North Dakota	73 (1.6)	231 (1.1)	84 (1.5)	228 (1.0)	27 (1.6)	226 (2.2)	16 (1.5)	216 (2.7)
Ohio	70 (1.4)	221 (1.4)	85 (0.8)	218 (1.5)	30 (1.4)	216 (2.0)	15 (0.8)	209 (2.9)
Oklahoma	68 (1.3)	221 (1.2)	86 (1.1)	220 (1.3)	32 (1.3)	219 (1.9)	14 (1.1)	210 (2.9)
Pennsylvania	68 (1.4)	227 (1.7)	86 (1.1)	225 (1.5)	32 (1.4)	222 (2.1)	14 (1.1)	209 (2.6)
Rhode Island	77 (1.3)	219 (1.8)	86 (1.1)	217 (1.6)	23 (1.3)	205 (2.9)	14 (1.1)	199 (3.6)
South Carolina	66 (1.3)	214 (1.5)	81 (1.2)	214 (1.1)	34 (1.3)	209 (2.2)	19 (1.2)	199 (2.3)
Tennessee	68 (1.3)	213 (1.7)	81 (1.1)	215 (1.5)	32 (1.3)	205 (1.9)	19 (1.1)	194 (2.4)
Texas	66 (1.7)	220 (1.9)	81 (1.4)	220 (1.5)	34 (1.7)	215 (2.2)	19 (1.4)	204 (2.3)
Utah	74 (1.5)	225 (1.2)	86 (1.2)	226 (1.1)	26 (1.5)	219 (1.8)	14 (1.2)	210 (2.7)
Virginia	67 (1.5)	224 (1.9)	83 (1.3)	222 (1.4)	33 (1.5)	217 (1.7)	17 (1.3)	204 (2.2)
West Virginia	71 (1.2)	217 (1.6)	83 (1.1)	215 (1.0)	29 (1.2)	213 (2.0)	17 (1.1)	206 (2.5)
Wisconsin	75 (1.3)	231 (1.4)	86 (0.9)	229 (1.2)	25 (1.3)	226 (1.8)	14 (0.9)	214 (2.3)
Wyoming	78 (1.1)	228 (1.2)	88 (1.0)	225 (1.0)	22 (1.1)	223 (2.0)	12 (1.0)	212 (2.9)
TERRITORY								
Guam	49 (1.4)	197 (2.0)	65 (1.7)	201 (1.2)	51 (1.4)	184 (1.6)	35 (1.7)	184 (2.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 6.11 | Student's Response to the Statement "Mathematics Is More for Boys than for Girls", by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1992, Strongly Disagree				Grade 8 - 1992, Disagree			
	Male		Female		Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	46 (1.1)	270 (1.5)	67 (1.2)	274 (1.3)	32 (1.0)	267 (1.6)	24 (1.1)	257 (2.0)
Northeast	50 (3.1)	271 (2.5)	70 (2.9)	275 (4.3)	31 (2.2)	267 (5.3)	22 (2.5)	261 (7.4)
Southeast	43 (1.8)	261 (2.4)	61 (1.4)	266 (1.6)	32 (1.7)	258 (2.5)	27 (1.7)	249 (3.5)
Central	44 (2.5)	274 (3.3)	71 (3.0)	277 (2.6)	33 (2.2)	276 (3.3)	22 (2.8)	267 (2.9)
West	48 (1.6)	272 (3.7)	67 (2.0)	277 (2.2)	31 (1.2)	265 (3.0)	23 (1.8)	255 (3.2)
STATES								
Alabama	43 (1.6) >	254 (2.2)	60 (1.6)	257 (2.3)	35 (1.5) <	252 (2.4)	27 (1.4)	243 (2.2)
Arizona	46 (2.1)	269 (1.5)	68 (1.7)	269 (1.5)	29 (1.6)	264 (1.8)	23 (1.4)	259 (2.0) >
Arkansas	44 (1.3)	260 (1.7)	64 (1.3) >	261 (1.4)	32 (1.0)	256 (1.9)	27 (1.2) <	248 (2.1)
California	46 (1.7)	268 (2.3)	64 (1.5)	272 (2.1) >	31 (1.6)	258 (2.4)	26 (1.4)	253 (2.1)
Colorado	50 (1.7)	277 (1.6) >	72 (1.3)	276 (1.4)	29 (1.4)	272 (2.2)	21 (1.1) <	256 (2.0)
Connecticut	52 (1.5)	280 (1.7)	72 (1.2) >	277 (1.2)	28 (1.3) <	271 (2.1)	20 (1.0) «	262 (2.9)
Delaware	46 (1.7)	268 (1.9)	69 (1.5)	268 (1.6)	30 (1.5) <	261 (3.0)	24 (1.4)	251 (2.1)
Dist. Columbia	38 (2.0)	240 (2.3)	67 (1.5)	240 (1.8)	30 (1.5) «	234 (2.5)	24 (1.4)	227 (2.5)
Florida	48 (1.4) >	264 (1.9)	66 (1.5) »	266 (1.8) >	31 (1.3) «	258 (2.2)	24 (1.3) «	248 (2.1)
Georgia	43 (1.4) >	266 (2.1)	65 (1.5) >	264 (1.4)	32 (1.3) «	259 (2.1)	26 (1.2)	247 (2.2)
Hawaii	39 (1.2)	262 (2.0) >	57 (1.6)	271 (1.4) >	32 (1.3)	255 (1.6) >	27 (1.3)	251 (1.9)
Idaho	54 (1.2)	278 (1.3) >	71 (1.3) >	276 (1.0)	28 (1.1) <	277 (1.8)	21 (1.2)	267 (1.5)
Indiana	46 (1.5)	274 (1.8)	69 (1.7)	273 (1.4)	34 (1.5)	272 (1.8)	23 (1.6)	256 (2.5)
Iowa	50 (1.4) >	286 (1.5)	74 (1.3)	286 (1.3) >	31 (1.1) <	283 (1.7)	20 (1.2)	272 (2.1)
Kentucky	43 (1.5) >	267 (1.9)	61 (1.6)	267 (1.5) >	31 (1.1) «	263 (1.7)	28 (1.2)	253 (1.8)
Louisiana	43 (1.6)	255 (1.8)	59 (1.6)	255 (2.1)	31 (1.3)	251 (2.3)	31 (1.2)	241 (2.5)
Maine	56 (1.4)	282 (1.4)	75 (1.2)	282 (1.3)	27 (1.2)	277 (2.3)	19 (1.1)	269 (1.8)
Maryland	49 (1.6) >	270 (2.0)	71 (1.4)	269 (1.5)	30 (1.3) <	263 (2.8)	21 (1.4)	254 (2.8)
Massachusetts	55 (1.4)	276 (1.7)	75 (1.5)	276 (1.3)	30 (1.4)	271 (2.1)	20 (1.4)	260 (2.8)
Michigan	51 (1.3)	271 (1.8)	72 (1.3)	270 (1.6)	28 (1.3) <	269 (2.8)	19 (1.1) <	254 (2.4)
Minnesota	47 (1.7)	285 (1.9) >	71 (1.4)	287 (1.1) »	33 (1.3)	284 (1.7)	21 (1.3) <	272 (2.0)
Mississippi	40 (1.8)	253 (2.1)	60 (1.5)	251 (1.6)	36 (1.5)	243 (1.9)	28 (1.5)	236 (2.0)
Missouri	48 (1.3)	274 (1.8)	66 (1.6)	275 (1.4)	31 (1.4)	272 (2.0)	26 (1.3)	262 (1.9)
Nebraska	45 (1.7)	279 (1.6)	72 (1.4)	280 (1.6)	32 (1.3)	279 (2.2)	20 (1.2)	268 (2.6)
New Hampshire	57 (1.5)	283 (1.4) >	77 (1.0)	280 (1.3)	27 (1.3) <	273 (2.0)	18 (1.0)	268 (2.0)
New Jersey	53 (1.4) »	277 (2.0)	75 (1.5) >	273 (1.8)	28 (1.4) «	271 (2.8)	18 (1.3) «	258 (3.1)
New Mexico	40 (1.3) <	265 (1.8)	61 (1.4)	263 (1.2)	32 (1.4)	260 (1.8)	29 (1.3)	250 (1.5)
New York	50 (1.9)	274 (2.7) >	67 (1.8)	274 (1.7) >	30 (1.5)	264 (3.6)	26 (1.7)	251 (3.5)
North Carolina	44 (1.6)	263 (1.7) >	64 (1.5)	263 (1.5)	31 (1.7)	257 (2.0) >	26 (1.0)	247 (2.1)
North Dakota	48 (1.6)	286 (1.1)	72 (1.5)	286 (1.5)	32 (1.6)	283 (1.9)	21 (1.4)	272 (2.5)
Ohio	44 (1.4)	272 (2.3)	68 (1.5)	273 (1.9) >	30 (1.3) <	268 (2.2)	23 (1.4)	254 (3.0)
Oklahoma	45 (1.7)	271 (1.8)	65 (1.9)	270 (1.7)	33 (2.1)	271 (2.0)	27 (1.6)	262 (2.5) >
Pennsylvania	46 (1.6)	279 (1.9)	71 (1.3)	274 (1.8)	32 (1.3)	271 (2.3)	22 (1.3) <	258 (2.4)
Rhode Island	49 (1.4)	271 (1.3) >	72 (1.7)	269 (1.3)	34 (1.8)	262 (1.9)	21 (1.6)	257 (2.1)
South Carolina	47 (1.5)	264 (1.8)	65 (1.4)	265 (1.2)	28 (1.2)	260 (2.1)	25 (1.2)	251 (1.6)
Tennessee	41 (1.4)	264 (2.2)	60 (1.6)	262 (1.7)	33 (1.4)	258 (1.9)	29 (1.6)	249 (2.2)
Texas	46 (1.4)	271 (1.7)	63 (1.5)	270 (1.9) >	31 (1.4)	265 (2.8)	25 (1.3)	252 (2.4)
Utah	49 (1.5)	277 (1.3)	67 (1.5)	278 (1.0)	31 (1.4)	274 (1.7)	25 (1.5)	267 (1.7)
Virginia	41 (1.5)	272 (2.3)	68 (1.5) >	272 (1.4)	32 (1.4)	268 (2.1)	23 (1.3) <	258 (1.8)
West Virginia	44 (1.6)	263 (1.7)	67 (1.5)	264 (1.4)	31 (1.7)	257 (1.8)	24 (1.3) <	247 (2.0)
Wisconsin	50 (1.7)	282 (1.8) >	72 (1.6)	280 (1.7)	29 (1.4) <	278 (2.0)	23 (1.4)	273 (2.5)
Wyoming	50 (1.7)	276 (1.4)	68 (1.2)	280 (1.2) »	27 (1.4) <	277 (2.0)	24 (1.3)	265 (2.3)
TERRITORIES								
Guam	34 (1.9)	248 (2.6)	49 (1.8)	251 (2.2)	26 (1.6)	237 (3.3)	28 (1.6)	235 (3.1) >
Virgin Islands	41 (2.3)	226 (1.9)	60 (2.4)	229 (1.9)	31 (2.0)	218 (2.9)	26 (1.9)	218 (2.2)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 6.11 | Student's Response to the Statement "Mathematics Is More for Boys than for Girls", by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1992, Undecided, Agree, or Strongly Agree			
	Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (0.7)	262 (1.8)	10 (0.7)	248 (2.5)
Northeast	19 (2.0)	266 (4.9)	8 (1.3)	*** (***)
Southeast	26 (1.5)	257 (3.4)	12 (1.7)	242 (4.4)
Central	23 (1.3)	270 (2.6)	7 (1.1)	*** (***)
West	21 (1.2)	258 (4.2)	10 (1.1)	246 (3.6)
STATES				
Alabama	22 (1.3)	254 (2.8)	13 (1.0)	234 (4.0)
Arizona	25 (1.5)	261 (2.3)	8 (1.0)	246 (4.3)
Arkansas	24 (1.2)	254 (2.7)	9 (0.9)	238 (2.3)
California	24 (1.2)	254 (2.8)	10 (0.9)	238 (4.1)
Colorado	21 (1.2)	270 (1.9)	7 (0.8)	254 (4.1)
Connecticut	20 (1.2)	271 (3.0)	8 (0.9)	254 (3.8)
Delaware	24 (1.4)	260 (2.3)	8 (1.0)	245 (4.7)
Dist. Columbia	31 (2.1)	230 (2.8)	9 (0.9)	227 (4.6)
Florida	22 (1.0)	255 (3.2)	10 (0.8)	237 (4.5)
Georgia	26 (1.2)	257 (2.3)	8 (0.8)	244 (3.6)
Hawaii	30 (1.4)	246 (2.2)	16 (1.2)	239 (3.2)
Idaho	18 (1.1)	273 (2.8)	8 (1.0)	255 (2.5)
Indiana	21 (1.0)	269 (2.6)	7 (0.9)	250 (3.6)
Iowa	19 (1.2)	281 (2.2)	6 (0.7)	263 (3.5)
Kentucky	26 (1.3)	260 (2.5)	11 (0.9)	242 (3.5)
Louisiana	26 (1.3)	248 (2.6)	11 (0.9)	233 (3.2)
Maine	17 (1.3)	270 (2.8)	6 (0.7)	262 (4.3)
Maryland	21 (1.1)	265 (2.6)	8 (0.8)	246 (4.0)
Massachusetts	15 (1.1)	271 (3.6)	6 (0.6)	249 (4.1)
Michigan	21 (1.5)	271 (3.0)	9 (0.8)	246 (3.2)
Minnesota	20 (1.3)	272 (2.6)	7 (0.8)	260 (2.7)
Mississippi	25 (1.6)	249 (2.4)	11 (1.0)	232 (3.1)
Missouri	21 (1.1)	269 (2.3)	8 (1.0)	248 (3.5)
Nebraska	23 (1.6)	276 (2.6)	8 (0.8)	258 (3.6)
New Hampshire	16 (1.1)	272 (2.3)	5 (0.5)	262 (3.8)
New Jersey	20 (1.4)	277 (2.7)	7 (0.7)	245 (4.1)
New Mexico	28 (1.1)	258 (2.0)	10 (0.9)	245 (3.2)
New York	20 (1.3)	263 (4.2)	7 (0.9)	242 (6.1)
North Carolina	26 (1.4)	258 (2.6)	9 (1.0)	245 (3.4)
North Dakota	20 (1.2)	283 (3.0)	7 (0.8)	260 (3.2)
Ohio	25 (1.3)	267 (3.5)	9 (0.8)	250 (3.7)
Oklahoma	22 (1.5)	264 (2.6)	8 (0.9)	251 (3.3)
Pennsylvania	23 (1.1)	268 (2.8)	7 (0.7)	243 (3.9)
Rhode Island	17 (1.4)	261 (3.4)	7 (0.8)	251 (4.0)
South Carolina	25 (1.3)	258 (2.4)	10 (0.9)	249 (3.3)
Tennessee	26 (1.4)	262 (3.0)	10 (0.9)	244 (3.1)
Texas	22 (1.2)	265 (2.3)	13 (1.0)	239 (3.4)
Utah	20 (1.1)	274 (2.1)	8 (0.7)	256 (2.8)
Virginia	26 (1.4)	265 (2.2)	10 (0.7)	250 (3.5)
West Virginia	25 (1.5)	257 (1.7)	9 (0.7)	242 (2.7)
Wisconsin	21 (1.2)	270 (3.3)	6 (0.8)	251 (4.1)
Wyoming	23 (1.6)	269 (1.9)	8 (0.7)	258 (4.0)
TERRITORIES				
Guam	40 (2.2)	228 (2.4)	24 (1.8)	222 (3.2)
Virgin Islands	28 (2.0)	222 (2.2)	14 (1.3)	207 (3.7)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 6.11 | Student's Response to the Statement "Mathematics Is More for Boys than for Girls", by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1990, Strongly Disagree				Grade 8 - 1990, Disagree			
	Male		Female		Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	42 (1.6)	265 (2.2)	61 (1.6)	268 (1.6)	37 (1.6)	265 (2.1)	30 (1.3)	256 (2.1)
Northeast	45 (4.1)	273 (2.7)	70 (3.1)	273 (3.4)	34 (4.1)	272 (7.5)	24 (2.7)	261 (5.7)
Southeast	36 (2.7)	262 (5.2)	54 (4.0)	264 (3.1)	39 (2.7)	253 (3.7)	33 (3.1)	249 (4.0)
Central	47 (3.9)	266 (3.7)	58 (3.7)	271 (3.5)	35 (3.0)	273 (4.3)	34 (2.4)	258 (2.5)
West	40 (2.6)	263 (4.4)	62 (2.3)	265 (3.1)	38 (3.0)	265 (3.1)	27 (2.3)	257 (5.2)
STATES								
Alabama	37 (1.2)	257 (1.5)	56 (1.7)	258 (1.5)	41 (1.3)	252 (2.1)	32 (1.7)	247 (1.8)
Arizona	48 (1.5)	266 (1.5)	63 (1.6)	263 (1.7)	30 (1.2)	263 (2.2)	27 (1.4)	250 (2.0)
Arkansas	43 (1.7)	260 (1.7)	58 (1.6)	260 (1.4)	36 (1.5)	257 (1.7)	32 (1.6)	252 (1.6)
California	47 (1.4)	262 (1.9)	62 (1.6)	263 (1.7)	33 (1.1)	255 (2.6)	27 (1.5)	247 (2.4)
Colorado	48 (1.6)	270 (1.6)	67 (1.4)	271 (1.4)	35 (1.5)	271 (1.5)	26 (1.2)	257 (2.2)
Connecticut	46 (1.6)	274 (1.5)	67 (1.3)	275 (1.4)	34 (1.6)	272 (1.6)	26 (1.2)	260 (2.4)
Delaware	42 (1.9)	263 (2.7)	66 (1.9)	267 (1.9)	36 (1.5)	263 (2.8)	26 (1.4)	255 (2.2)
Dist. Columbia	38 (1.6)	236 (1.7)	65 (1.5)	239 (1.6)	38 (1.4)	230 (2.3)	27 (1.5)	225 (2.2)
Florida	40 (1.4)	260 (2.2)	57 (1.3)	259 (1.8)	39 (1.5)	257 (1.9)	32 (1.2)	250 (2.3)
Georgia	36 (1.5)	261 (2.2)	60 (1.2)	264 (1.7)	40 (1.3)	262 (2.2)	31 (1.2)	252 (2.1)
Hawaii	40 (1.5)	254 (1.8)	59 (1.4)	263 (1.5)	34 (1.4)	249 (1.8)	28 (1.3)	250 (2.4)
Idaho	49 (1.5)	273 (1.6)	64 (2.0)	274 (1.1)	34 (1.6)	275 (1.8)	26 (1.6)	265 (1.6)
Indiana	47 (1.4)	270 (2.0)	65 (1.5)	269 (1.8)	35 (1.6)	272 (1.7)	27 (1.5)	259 (2.1)
Iowa	45 (1.3)	282 (1.4)	73 (1.2)	279 (1.4)	37 (1.5)	282 (1.6)	22 (1.1)	268 (2.0)
Kentucky	38 (1.4)	261 (1.9)	60 (1.8)	261 (1.3)	39 (1.4)	258 (1.8)	30 (1.5)	251 (1.8)
Louisiana	41 (1.7)	251 (1.7)	57 (1.7)	251 (1.7)	35 (1.5)	245 (2.1)	32 (1.6)	239 (1.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	43 (1.6)	264 (1.8)	66 (1.5)	266 (1.8)	36 (1.2)	261 (2.3)	25 (1.1)	256 (2.4)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	47 (1.5)	270 (1.6)	69 (1.4)	269 (1.3)	34 (1.5)	263 (1.7)	24 (1.1)	254 (2.1)
Minnesota	44 (1.5)	277 (1.7)	66 (1.7)	280 (1.2)	37 (1.4)	279 (2.0)	29 (1.5)	269 (1.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	46 (1.7)	278 (1.6)	68 (1.5)	279 (1.5)	36 (1.6)	279 (2.2)	25 (1.5)	268 (2.1)
New Hampshire	54 (1.5)	275 (1.5)	74 (1.5)	278 (1.4)	33 (1.2)	272 (2.4)	20 (1.4)	263 (2.6)
New Jersey	45 (1.4)	272 (1.8)	69 (1.1)	273 (1.4)	35 (1.3)	271 (1.8)	24 (1.0)	260 (2.4)
New Mexico	48 (2.2)	263 (1.8)	60 (1.6)	261 (1.3)	33 (1.9)	260 (1.8)	31 (1.6)	245 (1.8)
New York	45 (1.8)	265 (1.8)	64 (1.9)	266 (1.9)	34 (1.6)	266 (2.4)	26 (1.4)	252 (2.7)
North Carolina	43 (1.2)	255 (1.5)	60 (1.5)	258 (1.5)	35 (1.3)	249 (2.0)	31 (1.4)	243 (1.6)
North Dakota	49 (2.1)	286 (2.2)	66 (2.2)	283 (1.6)	34 (2.1)	286 (2.6)	26 (1.9)	273 (2.6)
Ohio	42 (1.6)	270 (1.8)	67 (1.5)	267 (1.2)	36 (1.3)	265 (2.2)	27 (1.3)	253 (2.1)
Oklahoma	45 (1.4)	266 (1.8)	64 (1.3)	267 (1.7)	36 (1.6)	267 (2.2)	28 (1.3)	253 (2.2)
Pennsylvania	45 (1.2)	272 (2.1)	65 (1.6)	270 (1.8)	36 (1.3)	269 (2.3)	27 (1.2)	253 (3.0)
Rhode Island	47 (1.5)	264 (1.4)	67 (1.6)	265 (1.3)	37 (1.4)	263 (1.9)	26 (1.6)	250 (2.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	43 (1.3)	265 (1.6)	61 (1.5)	263 (1.8)	35 (1.3)	260 (2.4)	28 (1.3)	249 (2.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx	xxx (xxx)
Virginia	44 (1.5)	268 (2.4)	62 (1.1)	269 (1.7)	35 (1.5)	269 (2.6)	27 (1.1)	256 (2.1)
West Virginia	45 (1.4)	258 (1.8)	62 (1.7)	261 (1.2)	33 (1.3)	257 (2.1)	29 (1.5)	248 (1.9)
Wisconsin	47 (1.6)	276 (1.8)	71 (1.6)	277 (1.6)	36 (1.6)	276 (1.5)	23 (1.5)	268 (2.5)
Wyoming	48 (1.7)	275 (1.3)	66 (1.6)	273 (1.0)	34 (1.6)	275 (1.4)	25 (1.3)	268 (1.7)
TERRITORIES								
Guam	34 (2.1)	244 (2.5)	51 (2.2)	244 (1.5)	32 (1.8)	234 (2.5)	32 (2.2)	225 (2.1)
Virgin Islands	41 (1.9)	225 (2.2)	56 (2.1)	222 (1.6)	33 (2.1)	221 (2.2)	30 (2.1)	213 (2.4)

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TABLE 6.11 | Student's Response to the Statement "Mathematics Is More for Boys than for Girls", by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1990, Undecided, Agree, or Strongly Agree			
	Male		Female	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (0.7)	262 (1.8)	10 (0.7)	248 (2.5)
Northeast	19 (2.0)	266 (4.9)	8 (1.3)	*** (***)
Southeast	26 (1.5)	257 (3.4)	12 (1.7)	242 (4.4)
Central	23 (1.3)	270 (2.6)	7 (1.1)	*** (***)
West	21 (1.2)	258 (4.2)	10 (1.1)	246 (3.6)
STATES				
Alabama	22 (1.3)	254 (2.8)	13 (1.0)	234 (4.0)
Arizona	25 (1.5)	261 (2.3)	8 (1.0)	246 (4.3)
Arkansas	24 (1.2)	254 (2.7)	9 (0.9)	238 (2.2)
California	24 (1.2)	254 (2.8)	10 (0.9)	238 (4.1)
Colorado	21 (1.2)	270 (1.9)	7 (0.8)	254 (4.1)
Connecticut	20 (1.2)	271 (3.0)	8 (0.9)	254 (3.8)
Delaware	24 (1.4)	260 (2.3)	8 (1.0)	245 (4.7)
Dist. Columbia	31 (2.1)	230 (2.8)	9 (0.9)	227 (4.6)
Florida	22 (1.0)	255 (3.2)	10 (0.8)	237 (4.5)
Georgia	26 (1.2)	257 (2.3)	8 (0.8)	244 (3.6)
Hawaii	30 (1.4)	246 (2.2)	16 (1.2)	239 (3.2)
Idaho	18 (1.1)	273 (2.8)	8 (1.0)	255 (2.5)
Indiana	21 (1.0)	269 (2.6)	7 (0.9)	250 (3.6)
Iowa	19 (1.2)	281 (2.2)	6 (0.7)	263 (3.5)
Kentucky	26 (1.3)	260 (2.5)	11 (0.9)	242 (3.5)
Louisiana	26 (1.3)	248 (2.6)	11 (0.9)	233 (3.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	21 (1.1)	265 (2.6)	8 (0.8)	246 (4.0)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	21 (1.5)	271 (3.0)	9 (0.8)	246 (3.2)
Minnesota	20 (1.3)	272 (2.6)	7 (0.8)	260 (2.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	23 (1.6)	276 (2.6)	8 (0.8)	258 (3.6)
New Hampshire	16 (1.1)	272 (2.3)	5 (0.5)	262 (3.8)
New Jersey	20 (1.4)	277 (2.7)	7 (0.7)	245 (4.1)
New Mexico	28 (1.1)	258 (2.0)	10 (0.9)	245 (3.2)
New York	20 (1.3)	263 (4.2)	7 (0.9)	242 (6.1)
North Carolina	26 (1.4)	258 (2.6)	9 (1.0)	245 (3.4)
North Dakota	20 (1.2)	283 (3.0)	7 (0.8)	260 (3.2)
Ohio	25 (1.3)	267 (3.5)	9 (0.8)	250 (3.7)
Oklahoma	22 (1.5)	264 (2.6)	8 (0.9)	251 (3.3)
Pennsylvania	23 (1.1)	268 (2.8)	7 (0.7)	243 (3.9)
Rhode Island	17 (1.4)	261 (3.4)	7 (0.8)	251 (4.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	22 (1.2)	265 (2.3)	13 (1.0)	239 (3.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	26 (1.4)	265 (2.2)	10 (0.7)	250 (3.5)
West Virginia	25 (1.5)	257 (1.7)	9 (0.7)	242 (2.7)
Wisconsin	21 (1.2)	270 (3.3)	6 (0.8)	251 (4.1)
Wyoming	23 (1.6)	269 (1.9)	8 (0.7)	258 (4.0)
TERRITORIES				
Guam	40 (2.2)	228 (2.4)	24 (1.8)	222 (3.2)
Virgin Islands	28 (2.0)	222 (2.2)	14 (1.3)	207 (3.7)

TABLE 6.12 Students' Responses to the Statement "Mathematics Is Useful for Solving Everyday Problems," Grades 4, 8, and 12

	Assessment Years	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	--	--	66 (1.0)	223 (0.8)>	34 (1.0)	214 (1.1)>
	1990	--	--	63 (1.1)	216 (1.3)	37 (1.1)	209 (1.2)
White	1992	--	--	67 (1.3)	230 (0.9)>	33 (1.3)	222 (1.2)>
	1990	--	--	65 (1.3)	223 (1.4)	35 (1.3)	216 (1.6)
Black	1992	--	--	63 (1.8)	196 (1.4)	37 (1.8)	189 (2.0)
	1990	--	--	60 (2.8)	190 (2.2)	40 (2.8)	189 (2.4)
Hispanic	1992	--	--	61 (1.8)	206 (1.6)	39 (1.8)	196 (2.2)
	1990	--	--	58 (2.8)	203 (2.2)	42 (2.8)	195 (2.4)
Asian/Pac. Islander	1992	--	--	71 (3.1)	236 (3.1)	29 (3.1)	226 (4.0)
	1990	--	--	65 (5.3)	230 (4.8)	35 (5.3)	223 (6.7)
American Indian	1992	--	--	68 (4.1)	210 (3.9)	32 (4.1)	210 (5.0)
	1990	--	--	63 (5.9)	211 (4.2)	37 (5.9)	202 (6.7)
Male	1992	--	--	67 (1.1)	225 (0.9)>	33 (1.1)	214 (1.5)
	1990	--	--	64 (1.3)	217 (1.6)	36 (1.3)	209 (1.7)
Female	1992	--	--	66 (1.3)	221 (1.1)>	34 (1.3)	214 (1.2)
	1990	--	--	62 (1.7)	216 (1.4)	38 (1.7)	209 (1.8)
Grade 8							
Nation	1992	38 (0.7)>	269 (1.1)>	43 (0.7)	271 (1.1)	19 (0.6)<	264 (1.4)>
	1990	32 (1.0)	263 (1.7)	44 (1.0)	268 (1.5)	24 (1.1)	256 (2.1)
White	1992	37 (0.9)>	279 (1.4)>	44 (0.9)	279 (1.1)	20 (0.7)<	273 (1.5)>
	1990	31 (1.1)	271 (1.8)	46 (1.0)	275 (1.7)	24 (1.3)	263 (2.5)
Black	1992	43 (1.8)	240 (1.5)	39 (1.4)	239 (2.0)	18 (1.3)<	234 (3.1)
	1990	38 (2.6)	239 (3.8)	38 (3.0)	243 (3.9)	25 (2.3)	233 (4.4)
Hispanic	1992	37 (1.8)	250 (2.2)	43 (1.5)	251 (1.8)	19 (1.2)<	242 (2.9)
	1990	34 (2.6)	248 (3.9)	40 (3.3)	249 (2.5)	26 (2.3)	240 (4.0)
Asian/Pac. Islander	1992	40 (3.2)	288 (7.0)	43 (3.9)	289 (5.4)	18 (2.8)	295 (7.3)
	1990	33 (5.7)	290 (5.6)	47 (7.1)	277 (5.6)	20 (6.1)	278 (6.7)
American Indian	1992	38 (5.2)	254 (5.1)	40 (4.5)	254 (4.8)	22 (5.0)	255 (4.0)
	1990	42 (7.7)	251 (9.4)	34(13.9)	251 (9.3)	23 (8.3)	237(13.4)
Male	1992	40 (1.0)>	271 (1.6)	42 (0.9)	271 (1.3)	19 (0.8)	262 (2.2)
	1990	35 (1.3)	266 (1.8)	43 (1.4)	268 (2.0)	22 (1.6)	254 (2.9)
Female	1992	36 (0.8)>	268 (1.2)>	44 (0.9)	271 (1.4)	20 (0.8)<	267 (1.8)>
	1990	29 (1.5)	259 (2.2)	44 (1.3)	268 (1.8)	26 (1.1)	258 (2.2)
Grade 12							
Nation	1992	24 (0.6)	300 (1.3)	47 (0.6)	301 (1.0)	30 (0.6)	295 (1.1)>
	1990	24 (0.8)	299 (2.0)	49 (1.2)	298 (1.5)	28 (1.1)	288 (1.4)
White	1992	21 (0.8)	310 (1.6)	47 (0.8)	307 (1.1)	31 (0.7)	299 (1.1)>
	1990	21 (1.0)	309 (2.2)	51 (1.4)	302 (1.6)	28 (1.2)	293 (1.6)
Black	1992	31 (1.5)	277 (2.6)	45 (1.5)	276 (2.1)	24 (1.4)	271 (2.6)
	1990	34 (2.3)	270 (3.6)	43 (2.4)	269 (3.4)	23 (2.0)	266 (3.0)
Hispanic	1992	27 (1.8)	281 (2.5)	46 (2.2)	288 (2.3)	27 (1.8)	282 (2.7)>
	1990	28 (2.9)	276 (4.6)	41 (3.6)	287 (3.3)	31 (3.2)	264 (5.3)
Asian/Pac. Islander	1992	26 (2.2)	317 (4.5)	50 (3.7)	318 (4.3)	24 (2.7)	309 (4.7)
	1990	31 (4.6)	310(12.6)	49 (6.3)	313 (5.2)	20 (4.1)	321 (9.1)
American Indian	1992	30(12.4)	283 (8.8)	36 (9.8)	281(12.3)<	34 (7.1)	284(18.6)
	1990	29(11.7)	271(24.8)	41(15.2)	315 (6.2)	30(11.7)	267(15.3)
Male	1992	26 (0.9)	302 (1.6)	46 (1.0)	304 (1.3)	28 (0.8)	295 (1.5)>
	1990	28 (1.3)	304 (2.7)	46 (1.6)	302 (1.9)	26 (1.5)	287 (2.0)
Female	1992	21 (0.7)	298 (1.7)	48 (1.0)	299 (1.2)	31 (0.9)	294 (1.4)>
	1990	20 (1.0)	292 (2.4)	52 (1.3)	295 (2.1)	29 (1.2)	288 (1.6)

The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Percentages may not total 100 percent due to rounding error.

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TABLE 6.13 | Students' Responses to the Statement "Mathematics Is Useful for Solving Everyday Problems"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Agree		Undecided or Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	66 (1.1)	222 (0.9)	34 (1.1)	212 (1.2)
Northeast	67 (2.0)	229 (2.4)	33 (2.0)	215 (2.3)
Southeast	65 (1.6)	214 (2.1)	35 (1.6)	203 (1.7)
Central	61 (3.0)	225 (1.7)	39 (3.0)	220 (3.3)
West	69 (1.9)	222 (1.9)	31 (1.9)	210 (2.0)
STATES				
Alabama	63 (1.3)	210 (1.8)	37 (1.3)	205 (1.6)
Arizona	62 (1.1)	219 (1.0)	38 (1.1)	209 (1.4)
Arkansas	61 (1.1)	212 (0.9)	39 (1.1)	205 (1.5)
California	64 (1.2)	214 (1.8)	36 (1.2)	204 (1.9)
Colorado	65 (1.0)	225 (1.0)	35 (1.0)	214 (1.3)
Connecticut	66 (1.1)	230 (1.0)	34 (1.1)	221 (1.9)
Delaware	61 (1.2)	221 (1.2)	39 (1.2)	212 (1.6)
Dist. Columbia	63 (1.1)	198 (0.9)	37 (1.1)	186 (1.2)
Florida	63 (1.1)	217 (1.3)	37 (1.1)	208 (1.9)
Georgia	63 (1.3)	219 (1.4)	37 (1.3)	209 (1.5)
Hawaii	60 (1.1)	219 (1.5)	40 (1.1)	208 (1.7)
Idaho	66 (1.1)	224 (1.0)	34 (1.1)	215 (1.3)
Indiana	63 (1.0)	223 (1.2)	37 (1.0)	215 (1.3)
Iowa	64 (1.1)	232 (1.2)	36 (1.1)	226 (1.3)
Kentucky	66 (1.1)	218 (1.2)	34 (1.1)	208 (1.2)
Louisiana	65 (1.2)	207 (1.5)	35 (1.2)	201 (1.6)
Maine	68 (1.5)	234 (1.2)	32 (1.5)	227 (1.4)
Maryland	68 (1.0)	222 (1.2)	32 (1.0)	209 (2.0)
Massachusetts	65 (1.2)	230 (1.2)	35 (1.2)	221 (1.7)
Michigan	65 (1.3)	223 (1.9)	35 (1.3)	214 (1.8)
Minnesota	69 (1.1)	232 (1.0)	31 (1.1)	220 (1.4)
Mississippi	64 (1.1)	204 (1.1)	36 (1.1)	196 (1.6)
Missouri	65 (1.4)	224 (1.3)	35 (1.4)	219 (1.5)
Nebraska	67 (1.1)	228 (1.3)	33 (1.1)	219 (1.7)
New Hampshire	68 (1.3)	232 (1.3)	32 (1.3)	225 (1.4)
New Jersey	65 (1.3)	230 (1.6)	35 (1.3)	222 (1.9)
New Mexico	62 (1.3)	216 (1.8)	38 (1.3)	208 (1.5)
New York	65 (1.2)	222 (1.5)	35 (1.2)	215 (1.4)
North Carolina	66 (1.1)	216 (1.3)	34 (1.1)	206 (1.4)
North Dakota	65 (1.1)	230 (0.9)	35 (1.1)	225 (1.2)
Ohio	64 (1.2)	222 (1.3)	36 (1.2)	212 (1.6)
Oklahoma	62 (1.5)	222 (1.2)	38 (1.5)	217 (1.1)
Pennsylvania	67 (1.3)	227 (1.6)	34 (1.3)	218 (1.5)
Rhode Island	61 (1.4)	218 (1.6)	39 (1.4)	212 (1.9)
South Carolina	66 (1.0)	216 (1.2)	34 (1.0)	205 (1.2)
Tennessee	59 (1.4)	214 (1.5)	41 (1.4)	206 (1.6)
Texas	68 (1.1)	222 (1.4)	32 (1.1)	212 (1.6)
Utah	67 (1.1)	227 (1.0)	33 (1.1)	218 (1.4)
Virginia	65 (1.1)	223 (1.5)	35 (1.1)	216 (1.6)
West Virginia	60 (1.2)	218 (1.2)	40 (1.2)	210 (1.4)
Wisconsin	66 (1.1)	231 (1.2)	34 (1.1)	223 (1.6)
Wyoming	66 (0.9)	227 (0.9)	34 (0.9)	221 (1.5)
TERRITORY				
Guam	56 (1.3)	197 (1.2)	44 (1.3)	188 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

TABLE 6.13 | Students' Responses to the Statement "Mathematics Is Useful for Solving Everyday Problems" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	38 (0.7)	268 (1.3)	43 (0.7)	269 (1.1)	19 (0.6)	263 (1.5)
Northeast	37 (2.2)	269 (3.8)	42 (2.0)	273 (3.6)	21 (1.5)	267 (4.1)
Southeast	37 (1.0)	260 (1.4)	42 (1.2)	261 (2.0)	21 (0.9)	253 (2.2)
Central	38 (1.4)	274 (2.4)	44 (1.8)	275 (2.1)	18 (1.4)	271 (3.3)
West	39 (1.2)	269 (2.6)	44 (1.3)	269 (2.3)	17 (1.1)	262 (3.2)
STATES						
Alabama	40 (1.3) >	253 (2.1)	40 (1.0)	253 (1.9)	19 (1.0)	249 (2.2)
Arizona	34 (1.3)»	266 (1.6)	43 (1.4)	268 (1.3) >	23 (1.1) <	261 (2.1)
Arkansas	38 (1.3)»	257 (1.5)	43 (1.2)	259 (1.4)	18 (0.9)«	250 (1.9)
California	39 (1.4)»	264 (2.1)	40 (1.3)«	264 (1.9)	22 (1.1)	259 (2.2)
Colorado	36 (1.1)»	274 (1.4)	45 (1.0)	275 (1.3) >	19 (0.9)«	264 (1.6)
Connecticut	35 (1.1)»	275 (1.5)	45 (0.9) <	277 (1.3)	20 (0.9)	268 (1.9)
Delaware	40 (1.5)»	261 (1.7)	41 (1.1)	266 (1.2)	19 (1.1) <	261 (2.2)
Dist. Columbia	42 (1.1) >	236 (1.6)	40 (1.2)	238 (1.3)	17 (0.9)«	232 (2.6)
Florida	36 (1.3)»	259 (1.8)	42 (1.0) <	264 (1.9)	22 (1.1)	255 (1.8)
Georgia	42 (1.2)»	258 (1.4)	41 (1.1)	263 (1.5)	17 (0.9)«	258 (2.1)
Hawaii	39 (1.2)»	260 (1.3)	38 (1.1)	260 (1.5) >	23 (0.8)	253 (2.0) >
Idaho	39 (1.2)»	277 (1.1) >	43 (1.2)	277 (0.9)	18 (0.9)	267 (1.9)
Indiana	37 (1.2) >	272 (1.6)	43 (1.2)	272 (1.4)	19 (1.0)	262 (2.0)
Iowa	39 (1.1)	285 (1.3) >	46 (1.1)	284 (1.3)	15 (1.0)	277 (1.7)
Kentucky	38 (0.9) >	264 (1.4) >	45 (1.0)	265 (1.4) >	18 (0.7)«	253 (1.8)
Louisiana	41 (1.3) >	248 (1.9)	40 (1.1)	253 (2.1)	19 (0.9)	250 (2.0) >
Maine	39 (0.9)	279 (1.3)	44 (1.2)	281 (1.3)	16 (1.0)	271 (2.3)
Maryland	37 (1.2) >	266 (1.8)	43 (1.1)	268 (1.5)	20 (1.0)	260 (2.1)
Massachusetts	34 (1.1)	275 (1.7)	45 (1.2)	275 (1.4)	21 (1.2)	265 (2.3)
Michigan	39 (1.1)»	268 (1.8)	43 (1.1)	271 (1.6)	18 (0.8)«	260 (2.2)
Minnesota	34 (1.0) >	283 (1.2)	48 (1.0)	284 (1.5) >	18 (0.9)	276 (1.9) >
Mississippi	42 (1.2)	246 (1.5)	40 (0.9)	249 (1.5)	17 (0.9)	243 (2.0)
Missouri	38 (1.3)	271 (1.7)	44 (1.0)	274 (1.3)	18 (0.9)	263 (1.9)
Nebraska	39 (1.4)	279 (1.6)	46 (1.2)	279 (1.3)	15 (0.8) <	270 (2.2)
New Hampshire	37 (1.0) >	280 (1.2) >	45 (1.0) <	279 (1.3)	19 (1.0)	273 (1.7)
New Jersey	37 (1.2)»	272 (1.7)	45 (1.3)	276 (1.6)	18 (1.0)«	265 (2.7)
New Mexico	35 (1.1)»	261 (1.4)	44 (1.1)	260 (1.1)	21 (0.8)	256 (1.8)
New York	34 (1.3)»	266 (2.4)	45 (1.3)	272 (2.1) >	21 (1.0)«	261 (2.9)
North Carolina	39 (1.2)	257 (1.3) >	44 (1.2)	262 (1.5)»	17 (0.7) <	252 (2.0) >
North Dakota	38 (1.2)	285 (1.5)	48 (0.8)	284 (1.3)	15 (0.9)	273 (1.9)
Ohio	41 (1.3)»	272 (1.9)	41 (1.0)«	270 (1.6)	19 (1.0)	258 (1.9)
Oklahoma	36 (1.0)	269 (1.6)	45 (1.2)	270 (1.2)	19 (1.1)	262 (2.1)
Pennsylvania	35 (1.1)»	271 (2.1)	44 (1.0) <	273 (1.6)	20 (0.9) <	267 (2.0) >
Rhode Island	34 (1.0)»	266 (1.4)	45 (1.3)	268 (1.0)	21 (1.0)«	264 (2.0)»
South Carolina	43 (1.0)	259 (1.3)	42 (1.1)	264 (1.2)	15 (0.7)	257 (1.9)
Tennessee	35 (1.1)	257 (1.8)	44 (1.0)	261 (1.5)	20 (1.0)	258 (2.5)
Texas	42 (1.3)»	266 (1.6)	42 (1.0)	267 (1.7) >	16 (0.9)«	260 (2.2) >
Utah	35 (0.9)	275 (1.3)	45 (0.9)	276 (1.0)	19 (0.8)	271 (1.5)
Virginia	38 (1.0)»	267 (1.6)	45 (0.9)	270 (1.4)	18 (1.0)	267 (1.7) >
West Virginia	34 (1.0)	260 (1.4)	43 (0.9)	262 (1.3)	23 (1.0)	253 (1.6)
Wisconsin	38 (1.3)»	280 (1.9)	46 (1.2)	279 (1.3)	16 (1.0) <	271 (2.4)
Wyoming	37 (1.1)»	277 (1.3)	44 (1.0)	277 (1.1)	18 (1.0)	265 (1.7)
TERRITORIES						
Guam	41 (1.3)»	244 (1.8)	38 (1.5)	240 (2.1)	22 (1.2) <	231 (2.6)
Virgin Islands	55 (1.3)»	223 (1.4)	31 (1.2)	225 (1.7)	14 (0.9) <	217 (2.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 6.13 | Students' Responses to the Statement "Mathematics Is Useful for Solving Everyday Problems" (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	33 (1.0)	262 (1.8)	44 (1.1)	268 (1.6)	24 (1.1)	255 (2.3)
Northeast	32 (3.0)	270 (5.0)	47 (2.4)	274 (3.8)	21 (2.5)	264 (4.7)
Southeast	35 (2.1)	255 (3.5)	40 (2.2)	263 (2.9)	25 (2.9)	246 (3.3)
Central	28 (1.7)	262 (3.2)	47 (1.7)	270 (2.9)	25 (2.0)	260 (3.2)
West	34 (1.6)	263 (3.2)	42 (2.0)	265 (2.8)	24 (2.0)	253 (5.0)
STATES						
Alabama	35 (1.2)	253 (1.7)	43 (1.1)	256 (1.5)	22 (0.8)	250 (1.4)
Arizona	27 (0.9)	261 (1.6)	46 (1.1)	262 (1.6)	27 (1.0)	257 (1.7)
Arkansas	31 (1.0)	257 (1.1)	46 (1.0)	260 (1.0)	23 (0.8)	250 (1.5)
California	31 (1.0)	258 (1.7)	47 (1.0)	260 (1.7)	22 (1.0)	252 (2.1)
Colorado	29 (1.0)	271 (1.3)	47 (1.1)	271 (1.1)	24 (0.8)	260 (1.7)
Connecticut	30 (0.8)	271 (1.7)	49 (1.0)	273 (1.3)	22 (0.9)	265 (1.8)
Delaware	31 (1.2)	263 (1.7)	45 (1.7)	263 (1.6)	24 (1.0)	255 (1.7)
Dist. Columbia	38 (1.3)	235 (1.3)	40 (1.2)	234 (1.5)	23 (0.8)	227 (1.7)
Florida	30 (1.0)	254 (1.6)	46 (1.1)	260 (1.8)	24 (1.0)	253 (1.9)
Georgia	34 (1.0)	258 (1.4)	43 (0.8)	265 (1.7)	22 (0.9)	253 (2.0)
Hawaii	33 (1.0)	255 (1.4)	41 (1.0)	255 (1.3)	26 (1.0)	246 (1.4)
Idaho	33 (0.9)	271 (1.3)	46 (1.2)	276 (1.2)	21 (1.0)	265 (1.4)
Indiana	33 (1.1)	269 (1.5)	46 (0.9)	270 (1.3)	21 (0.8)	260 (2.4)
Iowa	35 (1.1)	278 (1.6)	47 (1.3)	280 (1.3)	17 (1.0)	273 (2.1)
Kentucky	33 (1.4)	258 (1.6)	45 (1.4)	260 (1.4)	22 (0.9)	252 (1.8)
Louisiana	36 (1.1)	247 (1.5)	43 (1.1)	250 (1.6)	20 (0.8)	242 (2.0)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	33 (1.0)	261 (1.7)	44 (1.1)	264 (1.5)	23 (0.9)	257 (2.4)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	30 (1.0)	267 (1.5)	45 (1.0)	269 (1.6)	25 (1.1)	257 (1.7)
Minnesota	29 (1.2)	279 (1.7)	51 (1.0)	277 (1.0)	20 (1.0)	267 (1.8)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	35 (1.2)	278 (1.3)	47 (1.1)	278 (1.4)	18 (0.8)	268 (2.1)
New Hampshire	31 (1.0)	274 (1.8)	49 (1.4)	276 (1.1)	19 (1.1)	268 (1.9)
New Jersey	30 (1.0)	272 (1.9)	46 (0.9)	273 (1.4)	24 (0.9)	265 (1.4)
New Mexico	30 (1.0)	260 (1.6)	48 (1.2)	259 (1.0)	22 (1.0)	250 (1.7)
New York	28 (1.0)	264 (2.1)	45 (1.1)	265 (1.4)	26 (1.0)	256 (1.8)
North Carolina	36 (0.9)	252 (1.6)	43 (1.1)	255 (1.3)	21 (0.9)	244 (2.1)
North Dakota	34 (1.6)	286 (1.9)	49 (1.3)	282 (1.2)	17 (1.3)	272 (2.3)
Ohio	34 (1.0)	267 (1.6)	46 (0.9)	265 (1.2)	20 (0.8)	260 (1.9)
Oklahoma	34 (1.1)	263 (1.8)	45 (1.0)	266 (1.4)	21 (0.8)	259 (2.1)
Pennsylvania	28 (0.9)	268 (2.0)	48 (1.1)	270 (1.7)	24 (1.1)	259 (2.2)
Rhode Island	27 (0.9)	262 (1.6)	47 (0.9)	265 (0.9)	26 (1.0)	253 (1.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	34 (1.1)	262 (1.8)	45 (1.0)	261 (1.5)	21 (1.1)	252 (1.9)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	33 (1.0)	264 (1.7)	47 (1.0)	268 (2.1)	21 (0.9)	261 (2.0)
West Virginia	33 (1.1)	258 (1.4)	44 (0.9)	260 (1.1)	24 (1.0)	249 (1.5)
Wisconsin	32 (1.1)	275 (1.3)	49 (1.2)	279 (1.5)	19 (0.9)	264 (2.1)
Wyoming	32 (0.8)	275 (1.2)	47 (1.0)	274 (0.8)	21 (0.7)	264 (1.6)
TERRITORIES						
Guam	34 (1.2)	239 (1.5)	39 (1.4)	236 (1.5)	27 (1.4)	230 (1.7)
Virgin Islands	47 (1.3)	221 (1.4)	35 (1.1)	220 (1.4)	18 (1.2)	212 (2.4)

TABLE 6.14 Students' Responses to the Statement "Almost All People Use Mathematics in Their Jobs," Grades 4, 8, and 12

	Assessment Years	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	--	--	74 (0.9)>	223 (0.8)>	26 (0.9)<	212 (1.2)>
	1990	--	--	64 (1.4)	217 (1.1)	36 (1.4)	208 (1.3)
White	1992	--	--	76 (1.0)>	230 (0.9)>	24 (1.0)<	222 (1.4)>
	1990	--	--	67 (1.6)	222 (1.3)	33 (1.6)	217 (1.7)
Black	1992	--	--	70 (1.8)>	196 (1.4)	30 (1.8)<	186 (2.5)
	1990	--	--	57 (2.9)	192 (2.3)	43 (2.9)	186 (2.0)
Hispanic	1992	--	--	67 (1.7)>	206 (1.4)	33 (1.7)<	193 (2.2)
	1990	--	--	58 (2.5)	205 (2.1)	42 (2.5)	192 (3.2)
Asian/Pac. Islander	1992	--	--	69 (3.6)>	238 (2.6)	31 (3.6)<	221 (3.0)
	1990	--	--	52 (6.1)	231 (5.0)	48 (6.1)	224 (6.5)
American Indian	1992	--	--	78 (3.8)	212 (3.1)	22 (3.8)	206 (4.9)
	1990	--	--	69 (5.1)	215 (4.0)	31 (5.1)	192 (6.6)
Male	1992	--	--	74 (1.0)>	224 (0.9)>	26 (1.0)<	214 (1.4)>
	1990	--	--	65 (1.7)	218 (1.6)	35 (1.7)	208 (1.7)
Female	1992	--	--	74 (1.0)>	221 (1.1)>	26 (1.0)<	211 (1.5)
	1990	--	--	63 (1.8)	216 (1.1)	37 (1.8)	208 (1.8)
Grade 8							
Nation	1992	45 (0.9)>	269 (1.0)>	42 (0.7)<	270 (1.1)>	13 (0.6)<	266 (1.7)>
	1990	32 (1.1)	262 (1.8)	50 (1.0)	266 (1.4)	18 (1.1)	259 (2.2)
White	1992	44 (1.2)>	278 (1.2)>	43 (0.9)<	279 (1.2)>	13 (0.7)<	274 (1.7)>
	1990	30 (1.3)	270 (2.1)	51 (1.3)	273 (1.4)	19 (1.4)	265 (2.6)
Black	1992	50 (1.8)>	240 (1.6)	40 (1.8)	238 (2.5)	10 (1.0)<	234 (4.4)
	1990	38 (2.6)	236 (4.0)	46 (2.4)	242 (3.1)	16 (1.9)	234 (3.7)
Hispanic	1992	46 (1.5)>	250 (1.5)	41 (1.6)<	249 (1.8)	13 (1.3)<	240 (5.1)
	1990	31 (2.6)	250 (3.0)	50 (2.3)	245 (3.1)	19 (2.1)	241 (4.3)
Asian/Pac. Islander	1992	52 (3.3)	287 (6.6)	38 (3.3)	293 (5.3)	10 (1.9)	290 (5.9)
	1990	39 (4.9)	284 (6.6)	48 (3.4)	280 (5.3)	13 (3.4)	279 (9.1)
American Indian	1992	47 (4.5)	254 (4.1)	40 (3.5)	258 (3.8)	12 (2.9)	249 (6.0)
	1990	42 (4.7)	249 (7.2)	46(11.2)	243(12.9)	12 (9.5)	257(11.1)
Male	1992	47 (1.2)>	269 (1.3)	40 (0.9)<	271 (1.5)	13 (0.7)<	263 (2.8)
	1990	34 (1.6)	265 (2.4)	48 (1.4)	266 (2.0)	17 (1.3)	257 (3.3)
Female	1992	44 (1.0)>	268 (1.2)>	44 (0.9)<	270 (1.4)	12 (0.7)<	269 (2.0)>
	1990	30 (1.6)	259 (1.8)	51 (1.6)	265 (1.5)	19 (1.5)	260 (2.5)
Grade 12							
Nation	1992	25 (0.6)>	297 (1.3)	49 (0.6)<	300 (1.0)	26 (0.6)	299 (1.1)>
	1990	20 (1.0)	295 (2.1)	56 (1.4)	296 (1.3)	24 (1.1)	293 (1.6)
White	1992	22 (0.7)>	306 (1.5)	50 (0.7)<	306 (1.0)	28 (0.7)	304 (1.2)>
	1990	18 (1.2)	304 (2.4)	56 (1.5)	301 (1.6)	26 (1.4)	298 (1.6)
Black	1992	34 (1.3)>	274 (2.6)	47 (1.6)	275 (2.2)	19 (1.4)	277 (2.5)>
	1990	27 (2.7)	266 (3.8)	52 (2.3)	272 (2.6)	21 (1.9)	264 (4.0)
Hispanic	1992	33 (2.0)>	282 (2.3)	44 (2.2)<	286 (2.1)	23 (2.2)	283 (3.9)
	1990	20 (2.1)	278 (4.9)	60 (2.2)	278 (3.3)	20 (2.6)	269 (6.8)
Asian/Pac. Islander	1992	32 (3.2)	316 (4.5)	50 (2.7)	313 (4.2)	19 (2.6)>	320 (5.9)
	1990	26 (7.0)	312(10.6)	65 (7.6)	312 (7.1)	9 (2.9)	320 (7.1)
American Indian	1992	23(11.1)	287(10.0)	44 (8.3)	272 (9.9)	33 (7.0)	291(18.7)
	1990	16 (5.1)	274(20.7)	53(13.2)	289(15.4)	31(12.3)	293(12.6)
Male	1992	27 (0.9)>	300 (1.7)	49 (0.9)<	303 (1.3)	25 (0.8)	299 (1.8)>
	1990	20 (1.2)	304 (2.9)	57 (1.8)	299 (1.7)	23 (1.4)	292 (2.1)
Female	1992	24 (0.7)>	294 (1.7)	49 (1.0)<	297 (1.2)	27 (0.8)	300 (1.5)>
	1990	19 (1.2)	287 (2.6)	55 (1.3)	294 (1.8)	25 (1.5)	293 (1.9)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Percentages may not total 100 percent due to rounding error.

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TABLE 6.15 | Students' Responses to the Statement "Almost All People Use Mathematics in Their Jobs"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Agree		Undecided or Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	73 (1.0)	222 (0.8)	27 (1.0)	210 (1.4)
Northeast	76 (1.8)	227 (2.2)	24 (1.8)	215 (3.8)
Southeast	74 (1.7)	214 (1.8)	26 (1.7)	199 (2.5)
Central	72 (1.7)	225 (1.8)	28 (1.7)	218 (3.6)
West	73 (2.1)	222 (1.8)	27 (2.1)	210 (1.5)
STATES				
Alabama	69 (1.3)	211 (1.6)	31 (1.3)	201 (2.1)
Arizona	73 (1.1)	218 (1.0)	27 (1.1)	206 (1.5)
Arkansas	69 (1.2)	213 (1.0)	31 (1.2)	202 (1.6)
California	68 (1.5)	215 (1.8)	32 (1.5)	201 (2.0)
Colorado	76 (1.0)	223 (1.0)	24 (1.0)	213 (1.4)
Connecticut	68 (1.4)	230 (1.0)	32 (1.4)	220 (1.9)
Delaware	70 (1.4)	222 (1.2)	30 (1.4)	208 (1.4)
Dist. Columbia	63 (1.0)	199 (0.9)	37 (1.0)	184 (1.2)
Florida	71 (0.9)	217 (1.4)	29 (0.9)	205 (2.1)
Georgia	71 (1.1)	218 (1.2)	29 (1.1)	208 (1.8)
Hawaii	72 (1.1)	218 (1.3)	28 (1.1)	205 (1.9)
Idaho	77 (1.0)	223 (1.0)	23 (1.0)	215 (1.5)
Indiana	71 (1.1)	221 (1.1)	29 (1.1)	217 (1.5)
Iowa	73 (1.1)	232 (1.0)	27 (1.1)	224 (1.7)
Kentucky	73 (1.3)	217 (1.0)	27 (1.3)	207 (1.8)
Louisiana	66 (1.5)	209 (1.5)	34 (1.5)	196 (2.0)
Maine	74 (1.2)	235 (1.1)	26 (1.2)	224 (1.6)
Maryland	71 (1.3)	222 (1.2)	29 (1.3)	206 (2.2)
Massachusetts	71 (1.0)	229 (1.2)	29 (1.0)	220 (1.7)
Michigan	71 (1.3)	223 (1.7)	29 (1.3)	212 (2.3)
Minnesota	72 (1.2)	231 (0.8)	28 (1.2)	221 (1.7)
Mississippi	66 (1.3)	206 (1.2)	34 (1.3)	191 (1.4)
Missouri	74 (0.9)	224 (1.2)	26 (0.9)	216 (1.8)
Nebraska	73 (1.2)	227 (1.3)	27 (1.2)	219 (1.7)
New Hampshire	75 (1.3)	231 (1.3)	25 (1.3)	223 (1.5)
New Jersey	71 (1.3)	229 (1.5)	29 (1.3)	222 (1.9)
New Mexico	73 (1.2)	216 (1.5)	27 (1.2)	204 (2.2)
New York	67 (1.4)	222 (1.2)	33 (1.4)	213 (1.6)
North Carolina	71 (1.0)	216 (1.1)	29 (1.0)	205 (2.0)
North Dakota	75 (1.1)	229 (0.9)	25 (1.1)	224 (1.3)
Ohio	72 (1.0)	220 (1.1)	28 (1.0)	212 (1.9)
Oklahoma	74 (1.2)	221 (1.0)	26 (1.2)	215 (1.7)
Pennsylvania	70 (1.1)	227 (1.5)	30 (1.1)	218 (1.8)
Rhode Island	64 (1.3)	219 (1.4)	36 (1.3)	209 (2.1)
South Carolina	73 (1.2)	216 (1.1)	27 (1.2)	202 (1.6)
Tennessee	68 (1.1)	214 (1.3)	32 (1.1)	203 (1.8)
Texas	72 (1.2)	222 (1.3)	28 (1.2)	209 (1.8)
Utah	76 (1.1)	225 (1.0)	24 (1.1)	220 (1.7)
Virginia	74 (1.1)	224 (1.4)	26 (1.1)	212 (1.6)
West Virginia	72 (1.2)	218 (1.2)	28 (1.2)	207 (1.6)
Wisconsin	72 (1.2)	230 (1.2)	28 (1.2)	223 (1.7)
Wyoming	76 (1.1)	227 (1.0)	24 (1.1)	219 (1.4)
TERRITORY				
Guam	58 (1.3)	199 (1.2)	42 (1.3)	185 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4 students were not given the "strongly agree" and "strongly disagree" options.

TABLE 6.15 | Students' Responses to the Statement "Almost All People Use Mathematics in Their Jobs" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	45 (1.0)	268 (1.2)	42 (0.8)	269 (1.2)	12 (0.6)	264 (1.7)
Northeast	43 (2.1)	270 (3.4)	44 (1.3)	271 (3.3)	14 (1.8)	266 (5.1)
Southeast	45 (1.4)	259 (1.4)	41 (1.4)	260 (2.5)	14 (0.8)	255 (2.1)
Central	45 (2.5)	273 (2.3)	43 (2.0)	276 (2.1)	11 (1.0)	272 (3.9)
West	48 (2.0)	269 (2.6)	41 (1.5)	268 (2.4)	11 (1.2)	264 (3.1)
STATES						
Alabama	49 (1.3)»	251 (1.9)	41 (0.9)«	254 (2.0)	11 (0.7)«	251 (3.0)
Arizona	45 (1.0)»	265 (1.5)	43 (0.9)«	267 (1.5)>	12 (0.8)<	262 (2.1)
Arkansas	44 (1.1)»	256 (1.4)	43 (1.1)«	258 (1.6)	13 (0.7)<	254 (2.6)
California	44 (1.2)»	265 (1.8)>	42 (1.1)«	263 (2.1)	14 (0.7)	257 (2.7)
Colorado	46 (1.3)»	274 (1.5)>	43 (1.2)«	272 (1.0)>	11 (0.7)«	268 (2.5)
Connecticut	40 (1.1)»	275 (1.4)>	47 (1.1)«	274 (1.6)	13 (0.8)«	275 (2.2)
Delaware	46 (1.3)»	261 (1.7)	44 (1.0)«	265 (1.1)	10 (0.7)«	265 (2.7)>
Dist. Columbia	44 (1.5)>	235 (1.8)	44 (1.4)	236 (1.2)	12 (0.7)<	238 (3.2)>
Florida	46 (0.9)»	259 (1.7)>	42 (0.9)«	261 (1.7)	12 (0.7)«	258 (2.8)
Georgia	47 (1.3)»	259 (1.2)	41 (1.0)«	261 (1.5)	12 (0.8)<	259 (2.7)
Hawaii	49 (1.2)»	259 (1.3)>	41 (1.1)«	259 (1.3)»	10 (0.7)<	251 (3.5)
Idaho	48 (1.3)»	276 (1.1)>	42 (1.3)«	275 (0.8)	9 (0.7)<	267 (2.0)
Indiana	45 (1.3)»	270 (1.4)	44 (1.4)<	270 (1.4)	10 (0.8)«	268 (2.5)
Iowa	48 (1.3)»	283 (1.3)>	42 (1.0)«	284 (1.3)>	9 (0.7)<	279 (2.5)
Kentucky	42 (1.1)»	263 (1.5)>	46 (1.0)<	263 (1.5)	12 (0.6)<	258 (2.1)
Louisiana	45 (1.3)»	249 (1.9)	42 (1.2)«	252 (1.9)	13 (0.8)	248 (2.6)
Maine	45 (1.2)	279 (1.2)	44 (1.2)	280 (1.3)	11 (0.8)	272 (2.2)
Maryland	43 (1.3)»	263 (1.6)	44 (1.3)«	269 (1.6)	13 (0.8)<	262 (2.4)
Massachusetts	40 (1.1)	273 (1.3)	45 (1.0)	273 (1.4)	15 (0.9)	270 (2.4)
Michigan	45 (1.0)»	268 (1.8)	43 (1.0)«	269 (1.6)	12 (0.7)«	264 (2.4)
Minnesota	45 (1.3)»	283 (1.2)>	45 (1.3)«	282 (1.3)>	10 (0.7)«	275 (2.6)
Mississippi	48 (1.3)	247 (1.2)	42 (1.2)	246 (1.6)	10 (0.7)	248 (3.1)
Missouri	45 (1.6)	271 (1.7)	43 (1.3)	273 (1.2)	12 (0.8)	268 (2.3)
Nebraska	46 (1.3)»	278 (1.4)	44 (1.0)«	278 (1.3)	10 (0.8)<	271 (2.9)
New Hampshire	44 (1.3)»	280 (1.0)	44 (1.2)«	277 (1.4)	12 (0.7)«	275 (2.5)>
New Jersey	42 (1.1)»	272 (1.8)	44 (1.1)«	273 (1.7)	14 (1.0)<	275 (2.4)
New Mexico	47 (1.2)»	260 (1.3)	44 (1.0)«	260 (1.1)	9 (0.7)«	256 (2.4)>
New York	42 (1.2)»	266 (2.3)>	45 (1.2)«	268 (2.2)	13 (0.8)«	269 (2.7)
North Carolina	44 (1.0)»	258 (1.4)>	45 (1.0)<	260 (1.6)»	11 (0.6)«	257 (2.4)>
North Dakota	44 (1.5)»	284 (1.5)	47 (1.4)<	283 (1.3)	9 (0.7)	275 (2.4)
Ohio	48 (2.0)»	269 (1.8)	41 (1.5)«	269 (1.7)	11 (0.8)<	261 (2.4)
Oklahoma	44 (1.2)»	268 (1.7)	44 (1.1)<	270 (1.4)	12 (0.9)	264 (2.4)
Pennsylvania	43 (1.1)»	271 (1.9)	44 (1.1)«	271 (1.4)	13 (0.8)<	272 (2.8)>
Rhode Island	40 (1.0)»	265 (1.3)>	46 (1.0)«	266 (1.1)	15 (0.8)«	270 (1.7)»
South Carolina	50 (1.3)	260 (1.2)	41 (1.4)	262 (1.4)	10 (0.8)	262 (3.2)
Tennessee	41 (1.3)	259 (1.7)	46 (1.0)	260 (1.7)	12 (0.9)	256 (2.2)
Texas	51 (1.2)»	265 (1.5)	42 (1.0)«	266 (1.7)>	7 (0.6)«	263 (3.2)
Utah	46 (1.1)	275 (1.0)	42 (1.1)	276 (1.1)	12 (0.6)	269 (2.0)
Virginia	45 (0.9)»	267 (1.7)	43 (0.8)«	269 (1.2)	12 (0.6)<	271 (2.2)
West Virginia	43 (1.0)»	259 (1.2)	43 (1.0)«	260 (1.3)	14 (0.8)	256 (1.9)
Wisconsin	46 (1.1)»	280 (1.9)	44 (0.9)«	278 (1.4)	10 (0.8)<	268 (3.0)
Wyoming	46 (1.1)»	275 (1.0)>	42 (1.1)«	276 (1.3)	10 (0.8)	267 (1.8)
TERRITORIES						
Guam	49 (1.4)»	241 (1.6)»	39 (1.2)«	238 (2.0)	12 (1.0)	237 (4.4)
Virgin Islands	60 (1.3)»	223 (1.4)	33 (1.2)«	224 (1.6)>	7 (0.8)	215 (4.7)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 6.15 | Students' Responses to the Statement "Almost All People Use Mathematics in Their Jobs" (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	32 (1.2)	262 (1.9)	49 (1.0)	265 (1.5)	18 (1.2)	258 (2.4)
Northeast	29 (3.2)	265 (4.3)	53 (3.3)	273 (3.7)	18 (2.1)	271 (4.3)
Southeast	34 (2.6)	257 (4.1)	49 (2.5)	257 (3.3)	18 (2.4)	250 (2.8)
Central	32 (2.1)	266 (3.2)	49 (1.3)	267 (2.8)	20 (2.8)	258 (4.1)
West	34 (1.7)	261 (3.7)	48 (1.6)	264 (2.4)	18 (2.1)	256 (5.9)
STATES						
Alabama	36 (1.0)	251 (1.4)	49 (1.0)	256 (1.2)	15 (0.7)	250 (2.3)
Arizona	35 (1.0)	262 (1.5)	50 (1.0)	260 (1.7)	15 (0.8)	255 (2.4)
Arkansas	34 (1.3)	258 (1.1)	51 (1.2)	257 (1.1)	15 (0.9)	252 (1.8)
California	35 (1.2)	258 (1.5)	49 (1.2)	258 (1.6)	16 (0.8)	253 (2.4)
Colorado	35 (0.9)	269 (1.3)	50 (0.8)	268 (1.1)	15 (0.7)	263 (2.1)
Connecticut	29 (0.8)	268 (1.8)	53 (0.8)	272 (1.2)	17 (0.8)	270 (1.6)
Delaware	32 (1.1)	260 (1.7)	50 (1.2)	263 (1.1)	17 (0.8)	256 (2.3)
Dist. Columbia	38 (1.0)	234 (1.6)	48 (1.1)	233 (1.0)	15 (0.7)	228 (2.0)
Florida	34 (1.4)	253 (1.7)	50 (1.3)	259 (1.5)	16 (0.7)	254 (2.4)
Georgia	36 (1.0)	256 (1.3)	48 (1.0)	264 (1.7)	15 (0.8)	254 (2.3)
Hawaii	38 (1.2)	253 (1.6)	49 (1.1)	252 (1.3)	13 (0.6)	248 (2.6)
Idaho	40 (1.1)	273 (0.9)	48 (1.0)	272 (1.2)	12 (0.8)	265 (1.9)
Indiana	37 (1.2)	266 (1.4)	48 (1.1)	269 (1.3)	15 (0.8)	265 (2.5)
Iowa	34 (1.2)	278 (1.2)	53 (1.1)	279 (1.2)	13 (0.7)	274 (2.3)
Kentucky	34 (1.0)	258 (1.5)	51 (1.0)	258 (1.5)	15 (0.8)	254 (1.8)
Louisiana	37 (1.2)	247 (1.6)	48 (1.0)	248 (1.5)	14 (0.9)	244 (2.3)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	33 (0.8)	258 (1.8)	51 (0.8)	264 (1.7)	16 (0.7)	258 (2.2)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	33 (1.0)	264 (1.6)	52 (1.0)	266 (1.3)	16 (0.8)	264 (2.2)
Minnesota	32 (1.4)	278 (1.3)	54 (1.1)	277 (1.0)	14 (0.8)	267 (2.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	36 (1.3)	278 (1.3)	50 (1.1)	277 (1.4)	13 (0.8)	268 (2.2)
New Hampshire	33 (1.2)	276 (1.3)	51 (1.0)	275 (1.1)	16 (1.1)	267 (2.1)
New Jersey	28 (1.0)	272 (1.6)	54 (0.9)	270 (1.3)	17 (0.9)	269 (2.0)
New Mexico	36 (1.2)	258 (1.3)	51 (1.4)	259 (1.0)	13 (0.7)	247 (2.3)
New York	28 (1.3)	259 (2.0)	53 (1.4)	263 (1.4)	19 (1.1)	263 (2.0)
North Carolina	36 (1.3)	252 (1.4)	48 (1.1)	252 (1.2)	16 (0.8)	248 (1.9)
North Dakota	36 (1.7)	282 (1.6)	53 (1.5)	283 (1.2)	12 (1.0)	274 (2.8)
Ohio	36 (1.3)	264 (1.2)	49 (1.2)	266 (1.4)	15 (0.8)	261 (1.9)
Oklahoma	38 (1.2)	262 (1.8)	48 (1.0)	265 (1.5)	14 (0.8)	261 (2.4)
Pennsylvania	30 (0.9)	266 (2.1)	53 (1.0)	268 (1.5)	17 (0.8)	262 (2.7)
Rhode Island	28 (0.9)	260 (1.5)	52 (1.1)	263 (1.0)	20 (0.8)	256 (1.5)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	38 (1.1)	261 (1.7)	49 (0.9)	259 (1.3)	13 (0.9)	254 (2.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	34 (1.2)	263 (1.9)	50 (1.2)	266 (1.6)	15 (0.7)	264 (2.9)
West Virginia	35 (1.0)	257 (1.5)	43 (1.0)	258 (1.1)	16 (0.8)	251 (1.9)
Wisconsin	35 (1.2)	275 (1.6)	51 (1.0)	276 (1.3)	14 (0.8)	268 (2.1)
Wyoming	40 (1.0)	272 (1.0)	49 (1.2)	274 (0.9)	11 (0.6)	264 (1.8)
TERRITORIES						
Guam	41 (1.2)	233 (1.5)	46 (1.2)	238 (1.5)	13 (0.9)	228 (3.0)
Virgin Islands	50 (1.4)	221 (1.1)	42 (1.1)	218 (1.6)	9 (0.7)	216 (3.3)

TABLE 6.16 Students' Responses to the Statement "I Understand Most of What Goes On in Mathematics Class," Grades 4, 8, and 12

	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4						
Nation	--	--	80 (0.6)	224 (0.8)	20 (0.6)	203 (1.1)
White	--	--	82 (0.8)	230 (0.9)	18 (0.8)	212 (1.5)
Black	--	--	74 (1.7)	197 (1.6)	26 (1.7)	181 (1.9)
Hispanic	--	--	73 (1.4)	206 (1.4)	27 (1.4)	190 (2.0)
Asian/Pac. Islander	--	--	78 (2.5)	239 (2.6)	22 (2.5)	210 (4.6)
American Indian	--	--	73 (3.4)	214 (3.7)	27 (3.4)	202 (4.0)
Male	--	--	80 (0.8)	225 (0.9)	20 (0.8)	202 (1.7)
Female	--	--	79 (1.0)	222 (1.0)	21 (1.0)	204 (1.3)
Grade 8						
Nation	24 (0.8)	280 (1.3)	56 (0.8)	269 (1.0)	20 (0.6)	255 (1.4)
White	24 (1.0)	290 (1.3)	57 (1.0)	277 (1.0)	20 (0.8)	264 (1.6)
Black	26 (2.0)	243 (2.0)	55 (2.1)	239 (1.9)	18 (1.3)	229 (2.3)
Hispanic	20 (1.5)	262 (2.8)	53 (1.8)	250 (1.6)	27 (1.7)	232 (2.3)
Asian/Pac. Islander	32 (3.0)	300 (5.8)	58 (3.9)	288 (5.3)	11 (2.0)	263 (7.1)
American Indian	22 (4.5)	265 (6.4)	49 (4.6)	255 (3.4)	29 (6.0)	244 (4.7)
Male	27 (0.9)	280 (1.5)	56 (1.0)	269 (1.3)	18 (0.9)	252 (2.0)
Female	21 (1.1)	279 (1.7)	57 (1.1)	269 (1.1)	22 (0.8)	257 (1.7)
Grade 12						
Nation	13 (0.6)	315 (1.9)	53 (0.9)	302 (0.8)	34 (1.0)	287 (1.0)
White	12 (0.7)	325 (2.0)	53 (1.0)	309 (0.8)	34 (1.1)	292 (1.1)
Black	15 (1.1)	287 (3.7)	56 (1.7)	276 (1.8)	29 (1.6)	266 (2.1)
Hispanic	13 (1.5)	285 (5.3)	51 (4.0)	290 (2.1)	37 (3.4)	273 (2.6)
Asian/Pac. Islander	17 (2.8)	330 (3.7)	51 (3.6)	315 (4.6)	32 (3.9)	307 (4.9)
American Indian	18 (9.8)	296(24.9)	44(12.6)	289 (7.9)	37 (6.3)	269(15.7)
Male	16 (0.8)	315 (2.7)	53 (1.2)	304 (1.0)	31 (1.0)	288 (1.5)
Female	10 (0.6)	316 (2.4)	53 (1.0)	301 (1.1)	36 (1.1)	287 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. Percentages may not total 100 percent due to rounding error.

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TABLE 6.17 | Students' Responses to the Statement "I Understand Most of What Goes on in Mathematics Class"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Agree		Undecided or Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	79 (0.7)	222 (0.9)	21 (0.7)	202 (1.2)
Northeast	83 (1.8)	228 (2.1)	17 (1.8)	204 (2.4)
Southeast	77 (1.7)	214 (1.9)	23 (1.7)	194 (2.4)
Central	82 (1.3)	225 (2.1)	18 (1.3)	210 (2.4)
West	76 (0.8)	223 (1.7)	24 (0.8)	201 (2.3)
STATES				
Alabama	76 (1.0)	211 (1.6)	24 (1.0)	196 (1.8)
Arizona	76 (0.9)	220 (1.0)	24 (0.9)	198 (1.7)
Arkansas	77 (0.9)	214 (0.9)	23 (0.9)	194 (1.7)
California	75 (1.1)	215 (1.5)	25 (1.1)	190 (2.0)
Colorado	79 (0.8)	225 (1.0)	21 (0.8)	205 (1.9)
Connecticut	82 (0.9)	231 (1.2)	18 (0.9)	206 (1.9)
Delaware	82 (0.9)	221 (1.0)	18 (0.9)	199 (1.4)
Dist. Columbia	73 (0.9)	197 (0.7)	27 (0.9)	181 (1.3)
Florida	80 (0.9)	217 (1.5)	20 (0.9)	195 (1.9)
Georgia	79 (0.9)	219 (1.2)	21 (0.9)	199 (1.8)
Hawaii	72 (1.2)	219 (1.3)	28 (1.2)	200 (1.9)
Idaho	76 (1.1)	225 (1.0)	24 (1.1)	208 (1.4)
Indiana	81 (0.9)	223 (1.1)	19 (0.9)	206 (1.3)
Iowa	80 (0.9)	233 (1.1)	20 (0.9)	213 (1.4)
Kentucky	76 (0.8)	219 (1.1)	24 (0.8)	201 (1.3)
Louisiana	78 (0.9)	208 (1.4)	22 (0.9)	189 (2.3)
Maine	80 (1.1)	235 (1.1)	20 (1.1)	218 (1.5)
Maryland	80 (0.8)	221 (1.3)	20 (0.8)	200 (2.0)
Massachusetts	84 (0.9)	230 (1.2)	16 (0.9)	208 (1.6)
Michigan	78 (1.1)	224 (1.6)	22 (1.1)	201 (2.4)
Minnesota	84 (0.8)	232 (0.8)	16 (0.8)	210 (2.2)
Mississippi	78 (1.0)	204 (1.1)	22 (1.0)	189 (1.6)
Missouri	80 (0.9)	226 (1.3)	20 (0.9)	205 (1.5)
Nebraska	81 (0.9)	229 (1.2)	19 (0.9)	208 (2.0)
New Hampshire	82 (0.9)	233 (1.2)	18 (0.9)	211 (1.4)
New Jersey	84 (0.9)	230 (1.5)	16 (0.9)	207 (2.2)
New Mexico	77 (1.0)	217 (1.7)	23 (1.0)	198 (1.4)
New York	80 (1.1)	223 (1.2)	20 (1.1)	201 (2.1)
North Carolina	80 (0.8)	217 (1.1)	20 (0.8)	194 (1.5)
North Dakota	81 (1.2)	232 (0.9)	19 (1.2)	211 (1.5)
Ohio	81 (0.7)	222 (1.1)	19 (0.7)	201 (1.8)
Oklahoma	79 (0.8)	223 (1.1)	21 (0.8)	207 (1.8)
Pennsylvania	83 (0.9)	227 (1.3)	17 (0.9)	207 (2.2)
Rhode Island	80 (1.0)	219 (1.5)	20 (1.0)	198 (2.2)
South Carolina	81 (0.8)	215 (1.2)	19 (0.8)	198 (1.6)
Tennessee	79 (0.9)	214 (1.4)	21 (0.9)	195 (1.8)
Texas	77 (0.9)	222 (1.3)	23 (0.9)	203 (1.7)
Utah	79 (0.8)	228 (0.9)	21 (0.8)	205 (1.4)
Virginia	81 (0.8)	224 (1.4)	19 (0.8)	206 (1.9)
West Virginia	82 (0.9)	217 (1.2)	18 (0.9)	201 (1.4)
Wisconsin	80 (0.9)	232 (1.0)	20 (0.9)	214 (2.2)
Wyoming	79 (0.9)	228 (1.0)	21 (0.9)	212 (1.4)
TERRITORY				
Guam	58 (1.1)	199 (1.0)	42 (1.1)	182 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

TABLE 6.17 | **Students' Responses to the Statement "I Understand Most of What Goes on in Mathematics Class" (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Agree		Agree		Undecided, Disagree, or Strongly Disagree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (0.8)	278 (1.4)	56 (0.9)	268 (1.1)	20 (0.7)	254 (1.5)
Northeast	25 (1.9)	281 (3.4)	54 (1.7)	269 (3.8)	21 (1.8)	258 (2.9)
Southeast	23 (1.9)	265 (2.6)	57 (1.8)	260 (1.3)	20 (0.7)	249 (3.0)
Central	26 (1.2)	283 (2.0)	58 (1.8)	274 (2.3)	16 (1.5)	258 (3.9)
West	21 (1.6)	282 (2.7)	55 (1.9)	269 (2.0)	24 (1.6)	252 (2.2)
STATES						
Alabama	23 (1.1)	259 (2.4)	57 (1.1)	253 (1.7)	20 (1.3)	242 (2.4)
Arizona	22 (1.1)	279 (1.7)	57 (1.2)	265 (1.2)	22 (1.1)	250 (1.7)
Arkansas	22 (1.1)	261 (1.9)	57 (1.3)	257 (1.3)	21 (1.0)	247 (2.0)
California	22 (0.9)	278 (2.4)	57 (1.2)	263 (1.7)	21 (1.0)	245 (2.1)
Colorado	23 (0.9)	284 (1.8)	59 (1.0)	274 (1.0)	19 (0.6)	254 (1.7)
Connecticut	27 (0.8)	283 (1.4)	57 (1.1)	274 (1.3)	16 (1.0)	257 (2.8)
Delaware	27 (1.0)	268 (2.0)	55 (1.2)	264 (1.1)	18 (0.8)	253 (2.4)
Dist. Columbia	32 (1.1)	243 (1.4)	55 (1.1)	233 (1.2)	13 (0.8)	226 (3.1)
Florida	25 (1.0)	268 (1.9)	56 (0.9)	259 (1.7)	20 (0.9)	250 (2.3)
Georgia	24 (1.1)	264 (2.1)	59 (1.0)	259 (1.3)	17 (0.7)	252 (2.4)
Hawaii	20 (0.9)	266 (1.7)	56 (1.1)	260 (1.1)	23 (0.9)	244 (1.7)
Idaho	20 (0.8)	287 (1.6)	59 (1.0)	276 (0.9)	20 (0.9)	261 (1.2)
Indiana	22 (0.9)	282 (2.3)	61 (1.0)	270 (1.1)	17 (1.1)	254 (2.0)
Iowa	23 (1.0)	295 (1.5)	61 (1.1)	282 (1.1)	16 (0.8)	268 (1.7)
Kentucky	19 (0.9)	273 (2.3)	60 (1.0)	262 (1.2)	20 (0.9)	252 (1.7)
Louisiana	24 (1.1)	257 (1.9)	58 (1.0)	249 (1.8)	18 (1.1)	242 (2.1)
Maine	25 (0.8)	291 (1.7)	58 (1.2)	277 (1.1)	17 (1.0)	264 (1.7)
Maryland	26 (0.8)	273 (2.3)	57 (1.1)	264 (1.3)	17 (1.1)	255 (2.4)
Massachusetts	25 (1.1)	282 (2.0)	57 (0.9)	272 (1.2)	18 (0.9)	259 (2.2)
Michigan	24 (0.8)	277 (2.2)	57 (0.9)	267 (1.5)	18 (0.8)	255 (2.2)
Minnesota	20 (1.1)	296 (1.5)	62 (1.1)	282 (1.3)	18 (1.0)	265 (1.7)
Mississippi	25 (1.2)	252 (1.9)	59 (1.1)	247 (1.3)	16 (0.9)	235 (2.3)
Missouri	23 (1.0)	282 (1.8)	58 (1.0)	271 (1.3)	19 (1.1)	258 (1.7)
Nebraska	24 (1.0)	289 (2.0)	59 (1.1)	277 (1.2)	17 (1.0)	260 (1.7)
New Hampshire	25 (1.1)	287 (1.5)	58 (0.8)	278 (1.4)	17 (0.9)	263 (1.6)
New Jersey	27 (1.2)	283 (2.1)	57 (1.3)	270 (1.6)	15 (1.0)	259 (2.2)
New Mexico	20 (0.9)	274 (1.4)	59 (0.9)	260 (1.0)	21 (1.1)	242 (1.9)
New York	27 (1.1)	279 (2.5)	59 (1.1)	266 (2.1)	15 (1.0)	250 (3.2)
North Carolina	26 (1.2)	266 (1.5)	57 (1.1)	259 (1.4)	17 (0.9)	247 (2.2)
North Dakota	20 (1.0)	297 (1.6)	59 (1.2)	284 (1.4)	21 (0.9)	266 (1.7)
Ohio	24 (1.4)	280 (2.4)	57 (1.3)	269 (1.6)	19 (0.9)	252 (2.1)
Oklahoma	23 (1.2)	276 (1.8)	57 (1.2)	270 (1.1)	20 (0.9)	251 (1.7)
Pennsylvania	24 (0.9)	280 (1.8)	59 (0.9)	270 (1.5)	17 (0.9)	260 (2.9)
Rhode Island	23 (0.8)	274 (1.3)	59 (0.9)	265 (1.1)	18 (0.7)	258 (1.9)
South Carolina	28 (1.0)	265 (1.7)	55 (1.0)	260 (1.1)	17 (1.0)	254 (2.6)
Tennessee	21 (1.1)	269 (2.3)	62 (1.2)	258 (1.4)	17 (0.8)	246 (1.8)
Texas	21 (0.9)	280 (1.9)	56 (0.8)	264 (1.6)	23 (1.1)	251 (1.8)
Utah	21 (0.9)	284 (1.3)	59 (1.2)	275 (0.9)	20 (0.9)	261 (1.3)
Virginia	28 (0.9)	273 (2.0)	57 (1.0)	268 (1.2)	15 (0.9)	255 (1.8)
West Virginia	24 (0.9)	266 (1.6)	58 (1.0)	259 (1.1)	17 (0.9)	246 (1.7)
Wisconsin	22 (1.0)	291 (2.0)	60 (1.1)	279 (1.4)	18 (0.9)	259 (2.1)
Wyoming	22 (0.8)	285 (1.2)	58 (1.0)	276 (0.9)	19 (1.1)	258 (1.3)
TERRITORIES						
Guam	17 (0.9)	245 (2.6)	52 (1.6)	241 (1.5)	31 (1.5)	228 (2.3)
Virgin Islands	30 (1.2)	227 (1.9)	54 (1.1)	223 (1.3)	16 (0.9)	211 (2.2)

At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

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TABLE 6.18 Students' Responses to the Statement "Learning Mathematics Is Mostly Memorizing Facts," Grades 4, 8, and 12

	Strongly Disagree		Disagree		Undecided, Agree, or Strongly Agree	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4						
Nation	--	--	16 (0.6)	223 (1.5)	84 (0.6)	219 (0.7)
White	--	--	16 (0.8)	232 (1.5)	84 (0.8)	227 (0.9)
Black	--	--	15 (0.9)	187 (2.8)	85 (0.9)	194 (1.4)
Hispanic	--	--	13 (1.4)	200 (3.8)	87 (1.4)	203 (1.5)
Asian/Pac. Islander	--	--	12 (3.0)	248 (8.2)	88 (3.0)	230 (2.6)
American Indian	--	--	14 (3.7)	206 (5.2)	86 (3.7)	212 (3.8)
Male	--	--	17 (0.8)	225 (2.0)	83 (0.8)	220 (0.8)
Female	--	--	15 (0.8)	220 (2.0)	85 (0.8)	218 (1.0)
Grade 8						
Nation	7 (0.4)	281 (2.3)	23 (0.6)	282 (1.4)	70 (0.7)	264 (0.8)
White	8 (0.5)	288 (2.1)	26 (0.8)	288 (1.4)	66 (1.0)	273 (0.9)
Black	4 (1.0)	233 (5.9)	11 (1.0)	243 (3.5)	85 (1.4)	238 (1.4)
Hispanic	5 (0.8)	246 (5.9)	15 (1.3)	256 (3.0)	80 (1.6)	247 (1.3)
Asian/Pac. Islander	6 (1.7)	308(17.1)	24 (3.1)	306 (4.3)	70 (4.0)	282 (4.7)
American Indian	4 (2.4)	260 (5.7)	18 (2.6)	266 (7.8)	78 (3.6)	252 (3.3)
Male	8 (0.5)	276 (3.4)	22 (0.8)	281 (1.9)	71 (0.9)	265 (1.0)
Female	7 (0.5)	286 (3.0)	23 (0.9)	283 (1.6)	70 (1.1)	262 (0.9)
Grade 12						
Nation	11 (0.5)	314 (1.9)	29 (0.8)	313 (1.0)	61 (0.9)	290 (0.9)
White	12 (0.6)	317 (2.0)	32 (0.9)	316 (1.0)	56 (1.0)	296 (1.0)
Black	5 (0.7)	293 (4.2)	16 (1.3)	292 (3.5)	78 (1.6)	270 (1.7)
Hispanic	10 (1.4)	302 (5.1)	24 (2.0)	295 (2.9)	66 (2.1)	277 (1.9)
Asian/Pac. Islander	13 (2.5)	333 (5.4)	33 (3.7)	326 (4.3)	54 (4.3)	304 (3.7)
American Indian	8 (4.8)	258(35.3)	17 (5.3)	283(18.0)	76 (5.9)	284 (9.6)
Male	11 (0.7)	316 (2.8)	27 (0.9)	317 (1.6)	62 (1.0)	292(1.0)
Female	11 (0.8)	314 (2.1)	30 (1.0)	310 (1.3)	59 (1.2)	288(1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

TABLE 6.19 | Students' Responses to the Statement "Learning Mathematics Is Mostly Memorizing Facts"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Disagree		Undecided or Agree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	16 (0.7)	221 (1.6)	84 (0.7)	218 (0.8)
Northeast	17 (1.6)	233 (4.7)	83 (1.6)	223 (1.7)
Southeast	17 (1.5)	214 (3.6)	83 (1.5)	209 (1.6)
Central	15 (1.5)	224 (2.8)	85 (1.5)	223 (2.2)
West	14 (0.7)	216 (3.0)	86 (0.7)	219 (1.7)
STATES				
Alabama	14 (0.8)	211 (3.0)	86 (0.8)	207 (1.5)
Arizona	14 (0.7)	217 (2.0)	86 (0.7)	214 (1.1)
Arkansas	17 (0.8)	211 (1.7)	83 (0.8)	209 (1.0)
California	13 (0.8)	214 (4.1)	87 (0.8)	210 (1.5)
Colorado	16 (0.8)	229 (2.0)	84 (0.8)	219 (1.0)
Connecticut	20 (0.8)	236 (2.2)	80 (0.8)	224 (1.1)
Delaware	16 (1.0)	229 (2.5)	84 (1.0)	215 (0.9)
Dist. Columbia	15 (0.8)	197 (2.5)	85 (0.8)	192 (0.7)
Florida	15 (0.7)	218 (2.7)	85 (0.7)	213 (1.4)
Georgia	14 (0.9)	223 (2.8)	86 (0.9)	214 (1.2)
Hawaii	11 (0.7)	214 (2.9)	89 (0.7)	214 (1.4)
Idaho	13 (0.5)	225 (2.1)	87 (0.5)	220 (1.0)
Indiana	16 (0.8)	227 (1.8)	84 (0.8)	219 (1.1)
Iowa	16 (0.9)	236 (2.1)	84 (0.9)	229 (1.0)
Kentucky	14 (0.7)	218 (2.4)	86 (0.7)	214 (1.0)
Louisiana	16 (0.9)	207 (2.9)	84 (0.9)	204 (1.3)
Maine	22 (1.3)	240 (1.9)	78 (1.3)	230 (1.2)
Maryland	19 (0.9)	227 (1.9)	81 (0.9)	215 (1.3)
Massachusetts	19 (0.9)	239 (1.8)	81 (0.9)	224 (1.2)
Michigan	15 (0.7)	224 (2.7)	85 (0.7)	219 (1.7)
Minnesota	16 (0.9)	235 (1.9)	84 (0.9)	227 (0.9)
Mississippi	14 (0.8)	203 (2.7)	86 (0.8)	201 (1.1)
Missouri	14 (0.8)	229 (1.9)	86 (0.8)	221 (1.2)
Nebraska	15 (0.9)	229 (2.2)	85 (0.9)	224 (1.3)
New Hampshire	18 (0.9)	236 (1.9)	82 (0.9)	228 (1.3)
New Jersey	20 (1.2)	237 (2.4)	80 (1.2)	224 (1.4)
New Mexico	13 (1.0)	215 (4.8)	87 (1.0)	212 (1.2)
New York	15 (0.9)	226 (2.9)	85 (0.9)	218 (1.1)
North Carolina	17 (0.9)	217 (2.3)	83 (0.9)	212 (1.1)
North Dakota	14 (0.7)	236 (2.2)	86 (0.7)	227 (0.8)
Ohio	17 (0.9)	225 (2.2)	83 (0.9)	217 (1.2)
Oklahoma	14 (0.8)	224 (1.8)	86 (0.8)	219 (1.0)
Pennsylvania	17 (1.0)	233 (2.0)	83 (1.0)	222 (1.4)
Rhode Island	17 (0.9)	218 (2.7)	83 (0.9)	215 (1.4)
South Carolina	15 (0.8)	216 (1.8)	84 (0.8)	211 (1.1)
Tennessee	[illegible]8 (1.0)	215 (2.5)	82 (1.0)	210 (1.3)
Texas	17 (1.0)	224 (2.5)	83 (1.0)	217 (1.3)
Utah	14 (0.8)	228 (2.4)	86 (0.8)	223 (1.0)
Virginia	18 (0.9)	229 (2.4)	82 (0.9)	219 (1.3)
West Virginia	16 (0.9)	217 (2.1)	84 (0.9)	214 (1.1)
Wisconsin	16 (0.9)	235 (2.0)	84 (0.9)	227 (1.1)
Wyoming	14 (0.8)	231 (2.1)	86 (0.8)	224 (1.0)
TERRITORY				
Guam	13 (0.9)	182 (2.3)	87 (0.9)	194 (0.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

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TABLE 6.19 | Students' Responses to the Statement "Learning Mathematics Is Mostly Memorizing Facts" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Disagree		Disagree		Undecided, Agree, or Strongly Agree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (0.4)	280 (2.6)	22 (0.6)	281 (1.5)	71 (0.8)	262 (0.8)
Northeast	9 (1.7)	290 (6.1)	26 (1.5)	283 (4.2)	64 (2.2)	262 (2.4)
Southeast	6 (0.5)	263 (3.4)	18 (1.4)	272 (2.2)	77 (1.7)	256 (1.4)
Central	7 (0.9)	283 (4.8)	23 (1.0)	287 (2.1)	70 (1.5)	269 (2.1)
West	6 (0.6)	279 (4.6)	21 (1.0)	280 (3.0)	73 (1.3)	264 (1.7)
STATES						
Alabama	6 (0.5)	265 (3.9)	16 (1.0)	267 (2.1)	79 (1.2)	248 (1.8)
Arizona	6 (0.5)	273 (3.2)	19 (0.9)	275 (1.9)	75 (0.9)	262 (1.3)
Arkansas	6 (0.5)	257 (2.9)	19 (0.9)	268 (2.0)	76 (1.0)	254 (1.2)
California	6 (0.5)	266 (4.2)	18 (1.1)	274 (2.5)	76 (1.3)	260 (1.6)
Colorado	7 (0.6)	282 (2.5)	25 (0.8)	282 (1.7)	68 (0.9)	268 (1.0)
Connecticut	8 (0.7)	291 (2.6)	28 (1.0)	287 (1.5)	64 (1.3)	266 (1.3)
Delaware	6 (0.7)	282 (3.9)	20 (1.0)	277 (2.1)	74 (1.0)	258 (1.0)
Dist. Columbia	4 (0.5)	246 (5.9)	11 (0.8)	251 (3.0)	85 (0.7)	233 (1.0)
Florida	6 (0.6)	275 (4.2)	18 (0.8)	272 (2.2)	76 (1.0)	256 (1.6)
Georgia	5 (0.6)	277 (4.0)	17 (0.9)	271 (2.0)	78 (1.1)	256 (1.1)
Hawaii	4 (0.4)	266 (5.7)	12 (0.7)	273 (2.4)	84 (0.6)	256 (1.0)
Idaho	6 (0.5)	283 (3.0)	23 (0.7)	281 (1.4)	71 (0.8)	272 (0.8)
Indiana	6 (0.5)	286 (3.9)	23 (1.1)	279 (2.2)	72 (1.1)	266 (1.2)
Iowa	7 (0.6)	288 (2.9)	25 (1.1)	293 (1.4)	67 (1.1)	279 (1.2)
Kentucky	5 (0.4)	268 (4.2)	20 (0.8)	276 (1.8)	75 (0.9)	259 (1.1)
Louisiana	6 (0.5)	264 (4.7)	17 (1.0)	265 (2.7)	76 (1.2)	245 (1.4)
Maine	8 (0.6)	291 (2.9)	27 (1.3)	288 (1.3)	65 (1.4)	273 (1.1)
Maryland	7 (0.7)	281 (3.3)	21 (1.0)	283 (2.2)	72 (1.2)	259 (1.2)
Massachusetts	9 (0.6)	287 (2.6)	28 (1.1)	285 (1.5)	63 (1.1)	265 (1.2)
Michigan	8 (0.6)	283 (3.0)	23 (0.9)	280 (2.1)	70 (1.2)	262 (1.3)
Minnesota	6 (0.5)	294 (3.3)	28 (0.9)	291 (1.4)	66 (1.0)	277 (1.0)
Mississippi	6 (0.6)	263 (3.7)	18 (1.2)	260 (1.9)	76 (1.4)	242 (1.2)
Missouri	6 (0.6)	285 (3.2)	19 (1.0)	282 (2.0)	75 (1.2)	267 (1.2)
Nebraska	6 (0.5)	278 (3.3)	25 (1.1)	287 (1.5)	70 (1.2)	274 (1.2)
New Hampshire	9 (0.7)	287 (2.5)	28 (1.0)	284 (1.8)	62 (1.2)	274 (1.0)
New Jersey	7 (0.6)	289 (3.1)	25 (1.3)	285 (2.1)	68 (1.4)	266 (1.6)
New Mexico	7 (0.6)	267 (2.7)	20 (0.7)	269 (2.0)	74 (0.9)	256 (0.9)
New York	5 (0.5)	281 (4.1)	22 (1.2)	283 (2.1)	73 (1.3)	262 (2.0)
North Carolina	5 (0.4)	266 (4.5)	20 (0.7)	274 (1.8)	75 (0.9)	254 (1.2)
North Dakota	6 (0.6)	294 (3.2)	26 (1.1)	291 (2.1)	68 (1.3)	279 (1.1)
Ohio	6 (0.5)	277 (3.1)	22 (0.9)	281 (1.8)	72 (0.9)	264 (1.6)
Oklahoma	6 (0.6)	276 (4.7)	21 (1.0)	277 (1.9)	72 (1.3)	265 (1.2)
Pennsylvania	7 (0.6)	284 (4.2)	26 (1.2)	280 (1.9)	67 (1.3)	266 (1.4)
Rhode Island	9 (0.4)	281 (3.0)	26 (1.0)	278 (1.5)	65 (1.0)	259 (0.8)
South Carolina	6 (0.5)	276 (3.7)	17 (0.8)	275 (2.2)	77 (1.0)	256 (0.8)
Tennessee	5 (0.6)	273 (4.8)	22 (1.2)	270 (2.0)	74 (1.4)	255 (1.3)
Texas	8 (0.6)	278 (3.6)	21 (1.1)	280 (2.4)	71 (1.1)	259 (1.3)
Utah	6 (0.4)	282 (3.0)	20 (0.7)	283 (1.6)	74 (0.7)	272 (0.8)
Virginia	7 (0.5)	282 (3.6)	22 (0.9)	280 (1.9)	71 (1.1)	263 (1.0)
West Virginia	6 (0.5)	267 (2.6)	19 (0.8)	267 (1.7)	75 (1.0)	256 (1.0)
Wisconsin	7 (1.1)	286 (4.7)	23 (1.2)	290 (1.4)	69 (1.8)	273 (1.5)
Wyoming	7 (0.4)	280 (2.4)	24 (1.1)	281 (1.6)	69 (1.2)	272 (1.0)
TERRITORIES						
Guam	3 (0.4)	*** (***)	9 (0.9)	244 (4.7)	88 (1.0)	239 (1.2)
Virgin Islands	4 (0.6)	*** (***)	10 (0.9)	227 (3.1)	86 (1.1)	222 (1.3)

At grade 4, students were not given the "strongly agree" and "strongly disagree" options. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 6.20 Students' Responses to the Statement "If I Had a Choice, I Would Not Study Any More Mathematics," Grades 4 and 8

	Strongly Disagree		Disagree		Undecided, Agree, or Strongly Agree	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4						
Nation	--	--	76 (0.6)	223 (0.8)	24 (0.6)	210 (1.1)
White	--	--	77 (0.7)	230 (0.9)	23 (0.7)	219 (1.3)
Black	--	--	71 (1.7)	197 (1.5)	29 (1.7)	183 (2.4)
Hispanic	--	--	73 (1.7)	206 (1.6)	27 (1.7)	192 (2.3)
Asian/Pac. Islander	--	--	72 (2.6)	237 (2.7)	28 (2.6)	222 (4.0)
American Indian	--	--	71 (3.3)	213 (3.8)	29 (3.3)	203 (4.4)
Male	--	--	73 (0.8)	226 (1.0)	27 (0.8)	209 (2.3)
Female	--	--	78 (0.9)	221 (1.0)	22 (0.9)	210 (1.6)
Grade 8						
Nation	28 (0.8)	278 (1.4)	38 (0.8)	270 (1.2)	34 (0.8)	259 (1.1)
White	28 (0.9)	288 (1.6)	38 (0.9)	279 (1.2)	34 (1.1)	267 (1.2)
Black	30 (1.4)	245 (2.5)	36 (1.6)	237 (2.0)	34 (1.5)	233 (2.2)
Hispanic	24 (1.7)	259 (2.8)	35 (1.6)	247 (2.6)	40 (1.7)	240 (2.2)
Asian/Pac. Islander	32 (3.4)	290 (9.4)	41 (3.8)	292 (4.3)	27 (3.0)	284 (6.2)
American Indian	27 (3.4)	261 (5.1)	42 (6.1)	253 (4.5)	31 (5.8)	250 (5.3)
Male	28 (1.1)	278 (1.9)	38 (0.9)	271 (1.5)	34 (1.3)	257 (1.4)
Female	29 (1.2)	277 (1.5)	37 (1.0)	268 (1.4)	34 (1.0)	261 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). At grade 4, students were not given the "strongly agree" and "strongly disagree" options. This question was not asked at grade 12. Percentages may not total 100 percent due to rounding error.

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TABLE 6.21 | Students' Responses to the Statement "If I Had a Choice, I Would Not Study Any More Mathematics"

PUBLIC SCHOOLS	Grade 4 - 1992			
	Disagree		Undecided or Agree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	76 (0.7)	222 (0.9)	24 (0.7)	208 (1.2)
Northeast	75 (1.4)	227 (2.1)	25 (1.4)	217 (2.6)
Southeast	74 (1.4)	215 (1.7)	26 (1.4)	197 (2.3)
Central	79 (1.6)	226 (2.3)	21 (1.6)	213 (2.1)
West	74 (1.3)	222 (1.7)	26 (1.3)	208 (2.9)
STATES				
Alabama	73 (1.1)	211 (1.6)	27 (1.1)	200 (2.1)
Arizona	74 (1.2)	219 (0.9)	26 (1.2)	204 (2.0)
Arkansas	76 (0.9)	213 (1.0)	24 (0.9)	200 (1.6)
California	74 (1.0)	215 (1.7)	26 (1.0)	197 (2.1)
Colorado	76 (0.9)	224 (1.0)	24 (0.9)	212 (1.8)
Connecticut	76 (1.0)	230 (1.2)	24 (1.0)	217 (1.8)
Delaware	76 (1.0)	221 (0.9)	24 (1.0)	206 (2.1)
Dist. Columbia	73 (1.0)	197 (0.8)	27 (1.0)	185 (1.3)
Florida	76 (1.0)	217 (1.6)	24 (1.0)	205 (2.1)
Georgia	75 (1.0)	219 (1.2)	25 (1.0)	204 (2.2)
Hawaii	73 (0.9)	219 (1.4)	27 (0.9)	203 (1.9)
Idaho	76 (0.8)	223 (0.9)	24 (0.8)	215 (1.8)
Indiana	78 (1.1)	222 (1.1)	22 (1.1)	213 (1.7)
Iowa	78 (0.8)	232 (1.1)	22 (0.8)	223 (1.8)
Kentucky	74 (1.1)	217 (1.1)	26 (1.1)	207 (1.6)
Louisiana	75 (1.0)	207 (1.4)	25 (1.0)	196 (2.1)
Maine	77 (1.0)	234 (1.0)	23 (1.0)	224 (1.7)
Maryland	74 (0.9)	221 (1.3)	26 (0.9)	208 (2.0)
Massachusetts	76 (1.1)	229 (1.2)	24 (1.1)	218 (1.6)
Michigan	77 (0.9)	223 (1.6)	23 (0.9)	209 (2.6)
Minnesota	77 (0.8)	231 (0.9)	23 (0.8)	218 (1.6)
Mississippi	74 (0.9)	204 (1.1)	26 (0.9)	193 (1.9)
Missouri	78 (1.0)	224 (1.2)	22 (1.0)	215 (2.0)
Nebraska	78 (1.1)	227 (1.3)	22 (1.1)	216 (1.8)
New Hampshire	76 (1.2)	232 (1.3)	24 (1.2)	222 (1.9)
New Jersey	77 (1.2)	229 (1.4)	23 (1.2)	220 (2.4)
New Mexico	78 (1.2)	215 (1.7)	22 (1.2)	204 (1.8)
New York	75 (1.2)	222 (1.3)	25 (1.2)	212 (1.7)
North Carolina	74 (0.7)	216 (1.1)	26 (0.7)	203 (1.8)
North Dakota	77 (1.3)	230 (0.9)	23 (1.3)	221 (1.5)
Ohio	76 (1.0)	221 (1.2)	24 (1.0)	210 (1.7)
Oklahoma	77 (0.9)	221 (1.0)	23 (0.9)	214 (1.7)
Pennsylvania	79 (0.9)	226 (1.4)	21 (0.9)	217 (2.1)
Rhode Island	76 (1.1)	219 (1.5)	24 (1.1)	204 (2.3)
South Carolina	75 (1.0)	215 (1.1)	25 (1.0)	203 (1.7)
Tennessee	76 (0.9)	214 (1.5)	24 (0.9)	201 (1.7)
Texas	77 (1.0)	221 (1.3)	23 (1.0)	208 (1.8)
Utah	76 (0.8)	226 (1.0)	24 (0.8)	217 (1.6)
Virginia	78 (0.9)	223 (1.4)	22 (0.9)	214 (2.0)
West Virginia	77 (0.9)	217 (1.0)	23 (0.9)	208 (1.7)
Wisconsin	79 (1.0)	231 (1.1)	21 (1.0)	218 (2.1)
Wyoming	79 (0.9)	228 (1.0)	21 (0.9)	216 (1.6)
TERRITORY				
Guam	61 (1.3)	199 (1.2)	39 (1.3)	183 (1.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

TABLE 6.21 | Students' Responses to the Statement "If I Had a Choice, I Would Not Study Any More Mathematics" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Strongly Disagree		Disagree		Undecided, Agree, or Strongly Agree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	28 (0.8)	276 (1.7)	38 (0.8)	268 (1.2)	34 (0.9)	258 (1.2)
Northeast	29 (2.4)	280 (4.7)	33 (1.5)	270 (3.4)	37 (2.2)	259 (3.9)
Southeast	27 (1.0)	266 (2.3)	40 (2.0)	260 (2.1)	33 (1.5)	251 (2.0)
Central	27 (2.0)	281 (2.4)	40 (1.9)	274 (2.4)	33 (2.0)	266 (2.7)
West	29 (1.4)	279 (3.0)	37 (1.3)	269 (2.7)	35 (1.8)	256 (1.7)
STATES						
Alabama	30 (1.4)	261 (2.5)	40 (1.0)	249 (2.0)	31 (1.1)	246 (1.8)
Arizona	26 (1.2)	272 (1.7)	39 (1.2)	267 (1.4)	35 (1.2)	258 (1.6)
Arkansas	27 (1.0)	260 (1.6)	37 (1.2)	259 (1.5)	36 (1.1)	250 (1.6)
California	29 (1.1)	272 (2.4)	37 (1.0)	263 (1.8)	34 (1.1)	251 (1.8)
Colorado	28 (1.0)	281 (1.6)	41 (0.9)	273 (1.2)	31 (1.0)	262 (1.5)
Connecticut	28 (1.0)	281 (1.5)	40 (1.1)	274 (1.8)	32 (1.2)	266 (1.6)
Delaware	27 (1.2)	269 (2.1)	38 (1.2)	265 (1.4)	35 (1.0)	256 (1.8)
Dist. Columbia	31 (1.1)	241 (1.7)	40 (1.1)	235 (1.4)	29 (1.2)	229 (2.0)
Florida	30 (1.1)	269 (1.8)	35 (0.9)	259 (1.9)	35 (1.0)	252 (1.9)
Georgia	29 (1.0)	265 (1.7)	40 (1.2)	260 (1.5)	32 (1.1)	253 (1.7)
Hawaii	25 (1.0)	270 (1.8)	36 (1.1)	259 (1.4)	39 (1.2)	248 (1.2)
Idaho	31 (1.0)	283 (1.3)	38 (0.9)	276 (1.0)	31 (1.2)	265 (1.1)
Indiana	30 (1.3)	279 (1.9)	40 (1.0)	270 (1.3)	30 (1.1)	260 (1.8)
Iowa	30 (1.1)	293 (1.4)	40 (1.1)	284 (1.2)	30 (1.0)	271 (1.5)
Kentucky	27 (1.2)	270 (1.8)	39 (0.9)	264 (1.3)	34 (1.0)	254 (1.5)
Louisiana	27 (1.1)	253 (2.1)	38 (1.0)	251 (2.1)	35 (1.1)	246 (1.7)
Maine	30 (1.1)	285 (1.8)	39 (1.1)	280 (1.3)	31 (1.2)	269 (1.5)
Maryland	27 (1.0)	274 (2.1)	37 (1.1)	267 (1.7)	35 (1.2)	256 (1.5)
Massachusetts	29 (1.2)	282 (1.7)	39 (1.2)	272 (1.6)	31 (1.2)	263 (1.8)
Michigan	32 (1.2)	270 (1.8)	38 (1.2)	269 (1.7)	30 (1.0)	262 (1.8)
Minnesota	27 (1.3)	294 (1.3)	40 (1.0)	284 (1.3)	32 (1.3)	270 (1.4)
Mississippi	30 (1.2)	253 (1.9)	38 (1.1)	246 (1.7)	32 (1.2)	239 (1.4)
Missouri	30 (1.1)	281 (1.8)	38 (1.0)	271 (1.3)	32 (1.2)	261 (1.3)
Nebraska	30 (1.1)	287 (1.6)	39 (0.8)	279 (1.6)	31 (1.1)	264 (1.4)
New Hampshire	31 (1.0)	286 (1.5)	38 (0.9)	278 (1.5)	31 (1.1)	269 (1.2)
New Jersey	32 (1.5)	277 (2.3)	40 (1.1)	273 (1.9)	29 (1.1)	264 (2.1)
New Mexico	25 (1.1)	269 (1.6)	39 (0.9)	261 (1.0)	36 (1.0)	250 (1.4)
New York	29 (1.0)	277 (2.0)	38 (1.1)	266 (2.2)	32 (1.2)	258 (2.8)
North Carolina	30 (1.1)	266 (1.6)	38 (1.0)	259 (1.4)	32 (1.1)	250 (1.7)
North Dakota	29 (1.1)	292 (1.8)	42 (1.1)	285 (1.4)	29 (1.2)	271 (1.3)
Ohio	29 (1.3)	279 (2.2)	39 (1.3)	269 (2.0)	33 (1.2)	257 (1.5)
Oklahoma	28 (1.1)	274 (1.9)	39 (1.2)	268 (1.4)	33 (1.4)	262 (1.8)
Pennsylvania	29 (1.1)	281 (1.8)	39 (1.0)	272 (1.6)	32 (1.2)	261 (1.8)
Rhode Island	25 (0.8)	273 (1.6)	40 (1.3)	267 (1.4)	35 (1.2)	259 (2.0)
South Carolina	31 (1.1)	264 (1.4)	38 (1.2)	260 (1.4)	30 (1.0)	257 (1.5)
Tennessee	26 (1.1)	264 (2.2)	43 (0.9)	261 (1.5)	31 (1.0)	250 (1.7)
Texas	28 (1.2)	276 (1.6)	38 (1.1)	264 (1.7)	34 (1.2)	255 (1.5)
Utah	28 (0.9)	283 (1.2)	38 (0.8)	276 (1.2)	35 (0.9)	265 (0.9)
Virginia	26 (1.0)	275 (1.9)	40 (1.1)	267 (1.5)	34 (1.3)	262 (1.3)
West Virginia	29 (1.0)	266 (1.4)	39 (0.9)	259 (1.2)	32 (1.0)	251 (1.3)
Wisconsin	30 (1.9)	288 (2.6)	39 (1.1)	278 (1.5)	31 (1.5)	268 (1.6)
Wyoming	31 (1.0)	282 (1.0)	38 (0.9)	277 (1.4)	31 (1.2)	264 (1.5)
TERRITORIES						
Guam	29 (1.1)	247 (2.4)	36 (1.1)	238 (1.9)	35 (1.1)	228 (2.1)
Virgin Islands	33 (1.2)	226 (1.8)	36 (1.3)	221 (1.6)	31 (1.3)	220 (1.9)

At grade 4, students were not given the "strongly agree" and "strongly disagree" options.

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CHAPTER SEVEN

Course-Taking Patterns for the Nation and the States

Overview

Chapter Seven presents data about students' course work in mathematics. Eighth graders who participated in the national and state assessments were asked about the type of mathematics course they were taking at the time of the assessment, as well as the areas they planned to study in grade 9. As part of the national assessment, twelfth graders were asked about their mathematics course work from grades 9 to 12 in a number of content areas, including algebra, geometry, trigonometry, calculus, and statistics. The twelfth graders' reports are presented first, followed by those of the eighth graders. The course taking information is related to assessment performance and trends are available for most questions.

Average Proficiency by Number of Mathematics Courses Taken in Grades 9 through 12

TABLE 7.1 High-School Seniors' Reports on the Number of Semesters of High-School Mathematics Courses Taken in Grades 9 through 12

	Assessment Years	Zero to Three Semesters		Four to Five Semesters		Six to Seven Semesters		Eight Semesters or More	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Nation	1992	14 (0.7)<	270 (1.4)	19 (0.9)	287 (1.2)>	25 (0.9)	299 (1.0)	42 (1.2)	320 (1.0)
	1990	18 (1.1)	268 (2.0)	18 (1.0)	282 (1.7)	25 (1.4)	298 (1.4)	39 (2.0)	320 (1.4)
White	1992	12 (0.8)<	276 (1.6)	18 (0.9)	292 (1.5)>	26 (1.0)	302 (1.0)	44 (1.3)	324 (1.0)
	1990	17 (1.2)	274 (2.4)	17 (1.2)	286 (1.7)	26 (1.6)	301 (1.6)	41 (2.5)	322 (1.6)
Black	1992	21 (1.7)	255 (2.7)	27 (2.3)	272 (2.4)>	19 (1.5)	279 (2.8)	32 (2.4)	295 (2.9)
	1990	25 (2.9)	250 (3.2)	26 (2.9)	262 (3.2)	24 (2.7)	276 (3.5)	25 (3.1)	297 (4.1)
Hispanic	1992	20 (1.8)	264 (3.9)	19 (2.4)	280 (3.1)	30 (3.1)	292 (3.2)	30 (3.5)	307 (2.8)
	1990	20 (2.8)	260 (5.1)	25 (4.1)	278 (5.4)	23 (4.0)	288 (5.0)	32 (3.6)	302 (4.1)
Asian/Pac. Islander	1992	4 (1.4)	276 (6.8)	15 (3.4)	292 (4.9)	17 (2.5)	309 (3.6)	64 (4.5)	331 (4.0)
	1990	6 (3.4)	254(15.7)	11 (9.2)	311(15.5)	19 (4.1)	313 (6.9)	64 (8.3)	328 (5.1)
American Indian	1992	24 (7.5)	256(15.5)	22 (6.1)	274(19.9)	26 (9.7)	292 (8.8)	28 (8.4)	313 (6.2)
	1990	19(10.7)	236(13.0)	28(10.9)	275(16.5)	24(10.2)	304(13.3)	28(13.2)	322 (7.4)
Advan. Urban	1992	5 (1.8)	273 (8.3)	12 (1.8)	297 (4.2)	21 (3.0)	304 (3.0)	62 (4.4)	330 (2.0)
	1990	11 (3.1)	278 (6.3)	11 (3.1)	281(11.0)	26 (6.8)	303 (3.5)	52 (6.2)	329 (4.1)
Disadvan. Urban	1992	21 (2.7)	261 (3.1)	24 (2.1)	275 (3.1)	24 (2.4)	289 (2.8)	32 (2.7)	300 (3.5)
	1990	19 (3.8)	262 (6.2)	19 (2.0)	269 (6.5)	29 (3.0)	284 (6.6)	33 (4.0)	303 (5.3)
Extreme Rural	1992	20 (3.3)	273 (2.6)	22 (2.0)	287 (2.8)	29 (2.6)	298 (2.3)	29 (2.8)	317 (3.4)
	1990	23 (5.0)	267 (2.9)	19 (1.7)	284 (4.4)	24 (5.0)	297 (2.3)	34 (5.2)	321 (2.0)
Other	1992	13 (0.7)<	271 (1.9)	20 (1.2)	288 (1.5)	26 (1.2)	300 (1.2)	41 (1.4)	320 (1.1)
	1990	17 (1.5)	268 (2.7)	19 (1.2)	283 (2.1)	24 (1.7)	299 (1.8)	39 (2.6)	319 (1.6)
Male	1992	13 (0.9)	272 (2.0)	20 (1.1)	290 (1.8)	24 (1.1)	301 (1.5)	43 (1.4)	323 (1.1)
	1990	17 (1.6)	270 (3.7)	18 (1.6)	284 (2.4)	20 (1.4)	299 (2.2)	45 (2.4)	322 (2.1)
Female	1992	14 (0.9)	269 (1.9)	18 (1.0)	284 (1.4)	27 (1.1)	298 (1.4)	41 (1.5)	318 (1.2)
	1990	18 (1.4)	267 (2.3)	18 (1.2)	279 (2.6)	29 (1.9)	297 (1.6)	34 (2.3)	317 (1.3)

(Table 7.1 continued on the next page)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 7.1 High-School Seniors' Reports on the Number of Semesters of High-School Mathematics Courses Taken in Grades 9 through 12 (continued)

	Assessment Years	Zero to Three Semesters		Four to Five Semesters		Six to Seven Semesters		Eight Semesters or More	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Northeast	**1992**	11 (0.9)	269 (1.9)	21 (2.5)	293 (2.0)>	16 (2.0)	295 (2.2)	52 (2.4)	321 (1.5)
	1990	17 (2.6)	275 (4.2)	18 (2.3)	279 (4.3)	15 (2.1)	296 (3.2)	50 (3.3.)	321 (2.9)
Southeast	**1992**	20 (1.7)	267 (2.1)	21 (1.4)	286 (2.1)	21 (1.6)	293 (2.4)	38 (1.5)	314 (2.1)
	1990	25 (1.9)	264 (2.1)	22 (1.8)	281 (2.9)	20 (1.8)	291 (3.5)	34 (2.3)	308 (2.8)
Central	**1992**	10 (1.4)<	272 (3.6)	18 (1.4)	286 (1.9)	30 (1.4)	302 (1.2)	42 (2.5)	323 (1.6)
	1990	17 (2.0)	266 (3.9)	20 (2.2)	284 (2.8)	25 (3.3)	302 (2.2)	37 (5.2)	321 (2.9)
West	**1992**	13 (1.0)	274 (3.6)	17 (1.7)	283 (3.1)	35 (2.2)	301 (2.0)	35 (2.7)	322 (2.2)
	1990	13 (2.0)	269 (5.6)	15 (1.4)	282 (3.5)	37 (2.3)	297 (2.3)	34 (3.4)	323 (2.9)
Public Schools	**1992**	15 (0.8)	270 (1.5)	21 (1.0)	286 (1.3)	26 (1.1)	298 (1.1)	39 (1.4)	319 (1.1)
	1990	18 (1.1)	268 (2.1)	19 (1.0)	282 (1.8)	26 (1.4)	298 (1.5)	37 (2.1)	320 (1.5)
Private Schools	**1992**	7 (0.9)	275 (5.3)	10 (1.6)	295 (3.3)	21 (1.6)	308 (2.5)>	62 (3.2)	326 (2.1)
	1990	12 (2.9)	270 (5.6)	15 (2.4)	283 (5.2)	16 (3.5)	294 (3.7)	57 (5.3)	316 (4.0)
Did Not Finish H.S.	**1992**	29 (2.4)	263 (3.3)	22 (2.2)	278 (4.3)	23 (2.8)	288 (3.2)	26 (2.7)	299 (3.8)
	1990	31 (4.0)	258 (6.3)	26 (3.8)	278 (5.6)	21 (3.4)	283 (2.9)	22 (4.3)	298 (6.5)
Graduated H.S.	**1992**	18 (1.5)<	263 (2.4)	24 (1.7)	282 (2.2)	26 (1.8)	292 (1.6)	32 (1.6)	308 (2.3)
	1990	24 (1.6)	266 (3.1)	23 (1.8)	275 (3.1)	25 (2.0)	291 (2.5)	27 (2.6)	311 (3.2)
Some Ed. After H.S.	**1992**	12 (1.0)<	272 (2.5)	21 (1.4)	288 (1.7)	26 (1.2)	298 (1.6)	41 (1.5)	317 (1.2)
	1990	17 (1.5)	273 (3.5)	18 (1.7)	288 (3.6)	28 (2.2)	298 (1.9)	37 (2.3)	320 (1.6)
Graduated College	**1992**	10 (0.8)	279 (2.6)	16 (1.0)	293 (1.7)	25 (1.2)	305 (1.5)	50 (1.7)	328 (1.0)
	1990	12 (1.3)	271 (3.4)	14 (1.2)	288 (2.6)	24 (2.0)	304 (2.2)	51 (2.5)	324 (1.8)
Academic	**1992**	7 (0.6)	285 (2.5)	14 (0.8)	298 (1.5)>	23 (1.0)	307 (1.1)	56 (1.4)	327 (1.0)
	1990	8 (0.7)	282 (3.6)	15 (1.0)	290 (2.5)	26 (1.9)	303 (1.4)	51 (2.1)	324 (1.5)
General	**1992**	22 (1.0)<	264 (1.8)	25 (1.6)	280 (1.7)>	28 (1.3)	292 (1.6)	24 (1.5)	303 (2.3)
	1990	30 (2.3)	264 (3.0)	25 (1.7)	272 (2.0)	25 (2.1)	288 (2.6)	20 (1.8)	303 (3.0)
Vocational/ Technical	**1992**	24 (3.6)<	261 (3.8)	36 (4.0)	279 (3.5)	25 (4.1)	284 (4.8)	15 (2.8)	291 (7.5)
	1990	43 (3.3)	259 (4.1)	22 (4.0)	277 (3.9)	20 (2.9)	284 (6.6)	15 (3.5)	281 (8.4)

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TABLE 7.2 Average Proficiency in Algebra and Functions by Algebra Course Taking, Grade 12

	Assessment Years	Have Not Studied Algebra		Only Taken Pre-Algebra		Only Taken Algebra I	
		Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency
Nation	1992	6 (0.5)<	254 (2.4)	6 (0.5)	264 (2.4)	29 (1.3)	284 (1.8)
	1990	9 (0.8)	246 (2.5)	8 (0.7)	262 (2.5)	28 (1.6)	286 (2.2)
White	1992	5 (0.6)	256 (3.1)	5 (0.5)	267 (3.2)	27 (1.5)	290 (2.0)
	1990	8 (0.9)	250 (2.7)	7 (0.8)	266 (3.4)	27 (1.7)	291 (2.1)
Black	1992	8 (1.5)	246 (3.6)	8 (1.2)	253 (3.6)	37 (1.8)	268 (2.6)
	1990	13 (1.8)	238 (4.6)	10 (1.5)	243 (3.6)	31 (2.6)	266 (2.9)
Hispanic	1992	7 (2.1)	252 (6.0)	9 (1.2)	260 (4.2)	34 (2.6)	274 (3.4)
	1990	17 (3.3)	240 (7.6)	10 (2.2)	262 (5.9)	31 (3.2)	272 (3.3)
Asian/Pacific Islander	1992	1 (0.5)	279(16.1)	4 (1.6)	296 (8.5)	20 (3.3)	295 (5.1)
	1990	6 (1.9)	250(15.2)	10 (6.1)	274(11.8)	24 (4.8)	317 (8.7)
Advan. Urban	1992	2 (0.8)	273(10.2)	5 (1.0)	281 (8.1)	23 (3.4)	306 (6.7)
	1990	4 (2.5)	241(11.4)	4 (0.9)	264 (7.8)	24 (3.8)	288 (6.6)
Disadvan. Urban	1992	6 (1.2)	247 (4.3)	7 (1.0)	252 (2.8)	37 (2.6)	271 (2.6)
	1990	12 (3.5)	243 (5.6)	12 (4.1)	259(16.1)	38 (4.8)	274 (5.6)
Extreme Rural	1992	10 (1.5)	248 (3.8)	6 (1.9)	260 (4.4)	27 (2.4)	276 (3.2)
	1990	13 (3.3)	245 (5.0)	4 (2.5)	266(11.7)	28 (4.7)	289 (3.7)
Other	1992	6 (0.7)	255 (3.3)	6 (0.5)	264 (3.1)	29 (1.5)	285 (2.1)
	1990	9 (0.9)	248 (3.1)	8 (0.8)	262 (2.9)	27 (1.7)	288 (2.6)
Public Schools	1992	6 (0.6)<	253 (2.5)	7 (0.5)	263 (2.5)	30 (1.3)	282 (1.8)
	1990	10 (0.9)	246 (2.5)	8 (0.8)	261 (2.6)	29 (1.7)	286 (2.2)
Private Schools	1992	2 (0.8)	271 (4.3)>	2 (0.7)	281 (8.3)	26 (5.8)	308 (4.8)
	1990	3 (0.9)	243 (6.9)	7 (3.7)	269 (4.5)	19 (6.3)	293 (5.9)
Male	1992	6 (0.7)<	254 (3.1)	6 (0.6)	268 (2.9)	29 (1.3)	286 (2.0)
	1990	10 (1.2)	250 (3.0)	7 (0.7)	265 (3.5)	27 (1.7)	286 (2.3)
Female	1992	5 (0.6)	253 (3.0)	6 (0.5)	260 (3.1)	28 (1.5)	282 (2.1)
	1990	8 (1.0)	243 (2.8)	8 (1.0)	259 (2.9)	28 (1.9)	286 (2.7)

(Table 7.2 continued on the next page)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 7.2 Average Proficiency in Algebra and Functions by Algebra Course Taking, Grade 12 (continued)

	Assessment Years	Taken Algebra II but Not Beyond		Taken Algebra III or Pre-Calculus but Not Calculus		Taken Calculus	
		Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency
Nation	**1992**	44 (1.7)	310 (1.0)	11 (0.8)	330 (1.5)	5 (0.6)>	340 (2.5)
	1990	43 (1.6)	310 (1.0)	9 (1.1)	326 (2.6)	3 (0.5)	340 (4.8)
White	**1992**	45 (2.0)	314 (1.0)	12 (0.9)	334 (1.5)	5 (0.6)	345 (2.4)
	1990	44 (2.0)	313 (1.2)	10 (1.4)	328 (2.9)	4 (0.5)	342 (5.0)
Black	**1992**	38 (2.8)	293 (2.1)	7 (1.2)	308 (3.9)	3 (0.6)>	300(13.9)
	1990	39 (2.5)	290 (2.3)	6 (1.6)	308 (6.8)	0 (0.4)	273(71.8)
Hispanic	**1992**	40 (3.9)	300 (2.3)	6 (1.0)	316 (6.0)	4 (0.8)	308(13.0)
	1990	38 (3.4)	300 (2.7)	3 (0.9)	317 (7.1)	1 (0.7)	327(21.7)
Asian/Pacific Islander	**1992**	45 (4.7)	324 (3.8)	12 (3.2)	331 (3.4)	17 (4.0)	350 (4.1)
	1990	42 (4.3)	327 (5.9)	13 (3.9)	326 (7.1)	5 (2.9)	355 (8.5)
Advan. Urban	**1992**	43 (4.8)	320 (2.3)	16 (2.4)	335 (2.4)	11 (2.2)	349 (4.4)
	1990	48 (5.7)	316 (2.0)	14 (3.2)	340 (4.8)	7 (2.5)	345(13.6)
Disadvan. Urban	**1992**	39 (2.8)	297 (2.8)	7 (1.5)	305 (5.2)	5 (1.1)>	304(12.7)
	1990	34 (2.5)	298 (7.1)	3 (1.2)	321 (6.9)	1 (0.8)	343(66.4)
Extreme Rural	**1992**	47 (3.2)	306 (2.4)	7 (1.2)	325 (4.5)	3 (0.8)	331 (6.5)
	1990	48 (5.1)	310 (3.5)	5 (2.2)	316 (9.2)	2 (1.1)	324(24.1)
Other	**1992**	44 (2.0)	311 (1.1)	11 (0.9)	332 (1.9)	4 (0.6)	342 (2.4)
	1990	43 (1.9)	310 (1.2)	10 (1.3)	324 (3.1)	3 (0.5)	340 (5.2)
Public Schools	**1992**	43 (1.6)	310 (1.2)	10 (0.7)	329 (1.8)	5 (0.6)	338 (3.0)
	1990	42 (1.7)	310 (1.1)	9 (1.3)	327 (3.2)	3 (0.4)	340 (5.7)
Private Schools	**1992**	36 (5.4)	318 (4.7)	20 (3.3)	338 (3.6)	13 (3.1)	348 (4.6)
	1990	48 (3.9)	303 (5.0)	16 (6.5)	314 (8.6)	7 (4.5)	334(12.5)
Male	**1992**	42 (1.8)	312 (1.4)	11 (0.9)	332 (1.7)	5 (0.6)	336 (3.9)
	1990	41 (1.9)	310 (1.7)	10 (1.2)	330 (2.8)	4 (0.6)	339 (6.9)
Female	**1992**	45 (1.9)	309 (1.1)	11 (1.0)	328 (2.1)	5 (0.6)>	344 (3.0)
	1990	45 (1.7)	309 (1.0)	8 (1.2)	321 (3.4)	2 (0.5)	341 (5.4)

(Table 7.2 continued on the next page)

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TABLE 7. 2 Average Proficiency in Algebra and Functions by Algebra Course Taking, Grade 12 (continued)

	Assessment Years	Have Not Studied Algebra		Only Taken Pre-Algebra		Only Taken Algebra I	
		Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency
Northeast	**1992**	6 (1.4)	254 (5.4)	4 (0.5)	267 (5.1)	22 (1.3)	288 (2.0)
	1990	8 (1.7)	250 (5.1)	6 (0.9)	259 (5.9)	28 (3.2)	299 (4.6)
Southeast	**1992**	7 (1.1)	248 (3.8)	6 (1.0)	258 (3.5)	28 (2.0)	275 (1.8)
	1990	12 (1.9)	243 (4.5)	6 (0.9)	253 (2.6)	28 (3.2)	274 (2.5)
Central	**1992**	4 (0.8)<	260 (6.1)	5 (1.1)	267 (3.3)	34 (4.0)	292 (3.8)
	1990	9 (1.6)	248 (4.1)	10 (2.0)	270 (4.1)	28 (3.3)	288 (3.6)
West	**1992**	5 (1.0)	257 (5.2)	8 (0.9)	264 (4.9)	30 (1.6)	282 (3.6)
	1990	8 (1.6)	246 (5.1)	8 (1.3)	258 (4.5)	28 (2.8)	282 (3.8)
Did Not Finish H.S.	**1992**	13 (2.1)<	250 (3.3)	9 (1.6)	262 (5.0)	40 (2.7)	271 (2.9)
	1990	25 (2.8)	243 (5.5)	11 (2.1)	266 (3.9)	32 (3.3)	274 (3.5)
Graduated H.S.	**1992**	10 (1.2)	253 (3.0)	8 (1.2)	261 (3.4)	33 (1.5)	276 (1.7)
	1990	12 (1.5)	247 (3.8)	12 (1.6)	254 (4.1)	34 (2.3)	280 (2.8)
Some Ed. After H.S.	**1992**	5 (0.9)	254 (3.3)	6 (0.7)	261 (3.7)	30 (1.5)	284 (2.1)
	1990	6 (0.9)	247 (4.7)	7 (1.6)	264 (3.6)	27 (2.3)	286 (2.6)
Graduated College	**1992**	3 (0.4)	262 (6.8)	4 (0.5)	271 (5.0)	24 (1.8)	294 (3.1)
	1996	5 (1.1)	253 (4.6)	4 (0.6)	270 (6.6)	24 (1.9)	296 (2.8)
Academic	**1992**	1 (0.3)	272 (7.7)	2 (0.3)	288 (5.3)	19 (1.7)	303 (3.1)
	1990	2 (0.5)	251 (6.1)	3 (0.5)	276 (5.3)	21 (2.0)	298 (3.1)
General	**1992**	10 (1.1)<	253 (3.1)	10 (1.1)	259 (3.0)	38 (1.4)	276 (1.4)
	1990	17 (2.0)	248 (3.2)	14 (1.7)	257 (4.1)	37 (2.0)	276 (2.3)
Vocational/Technical	**1992**	17 (3.8)	251 (5.0)	9 (2.0)	257 (7.6)	50 (5.1)	275 (3.4)
	1990	26 (3.0)	244 (3.4)	19 (3.6)	262 (4.5)	39 (4.1)	274 (4.5)

(Table 7.2 continued on the next page)

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TABLE 7.2 Average Proficiency in Algebra and Functions by Algebra Course Taking, Grade 12 (continued)

		Taken Algebra II but Not Beyond		Taken Algebra III or Pre-Calculus but Not Calculus		Taken Calculus	
	Assessment Years	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency
Northeast	1992	48 (4.1)	313 (2.1)	12 (2.2)	327 (2.4)	8 (1.5)	336 (4.4)
	1990	40 (3.7)	312 (2.3)	12 (1.8)	321 (4.5)	6 (1.2)	333 (7.6)
Southeast	1992	46 (2.2)	306 (1.9)	9 (1.6)	323 (3.2)	4 (1.1)>	342 (3.2)
	1990	45 (4.1)	304 (2.0)	8 (2.1)	321 (4.8)	1 (0.4)	319(13.4)
Central	1992	40 (4.2)	312 (2.0)	14 (1.6)	336 (1.5)	3 (0.7)	337 (6.3)
	1990	41 (2.9)	313 (2.6)	9 (2.8)	330 (5.5)	3 (0.8)	346 (8.5)
West	1992	42 (2.0)	311 (1.7)	9 (0.6)	331 (2.7)	5 (1.1)	344 (4.8)
	1990	46 (2.3)	309 (2.0)	8 (2.5)	329 (7.8)	3 (1.1)	352 (6.2)
Did Not Finish H.S.	1992	33 (2.0)	300 (2.3)	5 (1.3)	313 (6.2)	1 (0.4)	259(12.6)
	1990	27 (3.9)	295 (3.3)	4 (1.7)	302(16.0)	0 (0.0)	**** (0.0)
Graduated H.S.	1992	40 (1.9)	304 (1.9)	7 (0.8)	323 (3.1)	2 (0.4)	322 (8.8)
	1990	36 (2.5)	302 (1.5)	6 (1.0)	326 (4.6)	1 (0.4)	311(18.3)
Some Ed. After H.S.	1992	45 (1.9)	310 (1.8)	10 (1.1)	328 (1.9)	4 (0.5)	339 (5.3)
	1990	48 (2.4)	308 (1.8)	9 (1.6)	328 (3.1)	3 (0.7)	342 (7.6)
Graduated College	1992	47 (2.2)	315 (1.1)	14 (1.1)	334 (2.0)	8 (1.0)	348 (2.9)
	1990	48 (2.4)	316 (1.7)	13 (1.5)	326 (3.5)	5 (0.8)	343 (5.2)
Academic	1992	53 (2.5)	317 (1.0)	17 (1.4)	332 (1.4)	8 (0.9)>	348 (1.9)
	1990	55 (2.2)	314 (1.3)	14 (1.5)	327 (2.5)	5 (0.7)	346 (4.2)
General	1992	35 (1.6)>	300 (1.8)	5 (0.6)	328 (3.7)	2 (0.6)	316 (9.0)
	1990	29 (1.6)	298 (2.2)	3 (0.7)	321 (7.6)	1 (0.4)	295(16.7)
Vocational/ Technical	1992	18 (3.1)	300 (4.3)	5 (1.8)	294(11.3)>	2 (0.9)	286(31.9)
	1990	16 (2.4)	289 (5.7)	1 (0.7)	240(12.9)	0 (0.0)	**** (0.0)

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TABLE 7.3 Average Proficiency of Students Related to the Grade Level at Which They Initially Took a First-Year Algebra Course, Grade 12

	Before 9th Grade		9th Grade		10th Grade		11th or 12th Grade		Have Not Studied Algebra	
	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency
Nation	23 (1.0)	323 (1.2)	51 (1.4)	302(0.8)	15(0.8)	280(1.4)	5 (0.5)	267 (1.8)	6 (0.5)	255 (2.0)
White	24 (1.1)	328 (1.1)	52 (1.5)	307(0.7)	14(0.8)	286(1.6)	4 (0.5)	273 (1.8)	6 (0.5)	258 (2.1)
Black	18 (1.6)	294 (2.9)	48 (3.4)	279(2.3)	19(2.4)	265(2.2)	9 (1.2)	256 (2.9)	7 (1.3)	247 (4.0)
Hispanic	17 (2.0)	300 (5.0)	45 (3.0)	291(1.8)	23(2.4)	273(2.8)	9 (1.4)	261 (4.2)	7 (2.3)	250 (6.7)
Asian/Pacific Islander	40 (4.9)	335 (4.7)	44 (3.8)	307(3.4)	10(2.6)	288(4.9)	4 (1.4)	286 (7.7)	2 (0.8)	284(17.7)
Advan. Urban	33 (3.0)	336 (2.2)	50 (3.8)	315(2.4)	11(2.4)	289(6.5)	2 (0.7)	275 (8.0)	3 (0.6)	262 (8.1)
Disadvan. Urban	19 (1.8)	299 (4.3)	48 (3.5)	283(2.9)	20(2.7)	269(2.8)	9 (1.8)	254 (3.8)	5 (1.1)	250 (4.7)
Extreme Rural	12 (2.4)	313 (2.6)	57 (4.7)	300(2.3)	15(2.0)	281(3.0)	5 (1.9)	266 (4.8)	11 (1.2)	256 (2.7)
Other	24 (1.1)	323 (1.5)	50 (1.3)	302(0.9)	15(0.9)	282(1.7)	5 (0.5)	270 (2.4)	6 (0.7)	255 (2.7)
Public Schools	22 (1.0)	322 (1.5)	50 (1.4)	300(0.9)	16(0.9)	280(1.5)	6 (0.6)	267 (1.9)	6 (0.5)	255 (2.1)
Private Schools	32 (2.8)	327 (2.2)	58 (2.5)	312(2.0)	7(1.1)	286(3.8)	1 (0.3)	273 (5.0)	2 (0.7)	271 (6.9)
Male	24 (1.1)	324 (1.8)	49 (1.5)	304(1.2)	15(1.0)	283(1.5)	5 (0.6)	272 (2.7)	7 (0.6)	258 (2.7)
Female	23 (1.1)	321 (1.6)	52 (1.6)	300(0.9)	15(1.0)	278(2.0)	5 (0.6)	262 (2.3)	5 (0.5)	252 (2.4)

(Table 7.3 continued on the next page)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 7.3 Average Proficiency of Students Related to the Grade Level at Which They Initially Took a First-Year Algebra Course, Grade 12 (continued)

	Before 9th Grade		9th Grade		10th Grade		11th or 12th Grade		Have Not Studied Algebra	
	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency
Northeast	31 (1.9)	325 (1.7)	49 (2.4)	301 (1.5)	10 (1.3)	275 (2.5)	4 (0.9)	267 (5.1)	6 (1.2)	256 (4.9)
Southeast	20 (2.1)	319 (2.3)	49 (3.1)	295 (1.9)	16 (1.4)	276 (2.8)	6 (1.1)	262 (2.8)	9 (1.0)	254 (3.2)
Central	20 (1.4)	321 (3.4)	57 (3.0)	307 (1.5)	16 (2.2)	287 (2.5)	4 (1.1)	272 (4.0)	4 (0.5)	256 (2.3)
West	23 (2.0)	324 (2.3)	47 (1.9)	302 (1.3)	18 (1.1)	281 (2.6)	7 (0.8)	268 (2.8)	6 (0.9)	257 (3.8)
Did Not Finish H.S.	14 (2.4)	298 (4.5)	39 (2.7)	285 (2.6)	24 (2.7)	273 (3.0)	10 (1.4)	261 (5.1)	13 (1.9)	255 (4.3)
Graduated H.S.	15 (1.4)	309 (2.6)	50 (2.0)	294 (1.7)	18 (1.4)	277 (2.1)	7 (1.0)	264 (2.7)	10 (1.1)	256 (2.3)
Some Ed. After H.S.	20 (1.3)	321 (2.2)	54 (1.8)	301 (1.0)	16 (1.1)	282 (2.6)	4 (0.7)	268 (3.8)	6 (0.8)	255 (3.3)
Graduated College	31 (1.5)	330 (1.3)	51 (1.7)	309 (1.0)	12 (0.9)	286 (1.9)	3 (0.5)	272 (3.5)	2 (0.4)	256 (5.6)
Academic	33 (1.4)	330 (1.2)	55 (1.6)	312 (0.7)	9 (0.8)	291 (2.0)	2 (0.3)	278 (3.7)	1 (0.2)	268 (7.8)
General	14 (1.1)	308 (2.4)	46 (1.9)	292 (1.4)	21 (1.3)	280 (2.0)	8 (1.0)	265 (2.4)	11 (0.9)	255 (2.6)
Vocational/ Technical	13 (2.1)	293 (7.2)	38 (4.3)	286 (3.7)	23 (3.2)	277 (4.2)	9 (2.3)	260 (6.1)	17 (3.2)	257 (5.3)

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Average Proficiency in Geometry by Geometry and Trigonometry Course Taking, Grade 12

TABLE 7.4 Average Proficiency in Geometry by Geometry and Trigonometry Course Taking, Grade 12

	Assessment Years	Have Not Studied Geometry		Taken Geometry		Taken Geometry and Trigonometry	
		Percent of Students	Geometry Proficiency	Percent of Students	Geometry Proficiency	Percent of Students	Geometry Proficiency
Nation	1992	23 (1.3)<	267 (1.6)>	57 (1.5)	309 (1.0)	20 (1.2)	322 (1.5)
	1990	29 (1.6)	258 (1.6)	55 (1.7)	308 (1.4)	16 (1.5)	324 (2.2)
White	1992	22 (1.3)	271 (1.9)>	58 (1.6)	314 (1.0)	20 (1.5)	326 (1.8)
	1990	26 (1.8)	264 (1.6)	57 (2.0)	312 (1.5)	17 (1.7)	330 (2.1)
Black	1992	28 (3.5)	252 (2.8)>	54 (3.6)	283 (2.1)	18 (2.1)	301 (3.5)
	1990	39 (3.1)	239 (2.8)	47 (3.3)	282 (2.6)	14 (1.8)	296 (5.1)
Hispanic	1992	32 (5.4)	264 (2.7)>	55 (6.9)	301 (2.4)	13 (2.2)	305 (7.0)
	1990	42 (3.9)	250 (5.2)	50 (3.4)	295 (2.7)	8 (1.8)	306 (8.9)
Asian/Pacific Islander	1992	13 (2.6)	287 (5.0)	53 (4.6)	326 (4.2)	34 (4.4)	329 (4.6)
	1990	15 (4.7)	262 (8.9)	63 (4.9)	324 (4.3)	22 (8.6)	329 (7.5)
Advan. Urban	1992	10 (2.3)	272 (6.9)	61 (3.9)	324 (2.8)	29 (3.5)	331 (4.1)
	1990	18 (4.9)	265 (6.5)	62 (6.2)	315 (5.5)	20 (3.8)	330 (6.6)
Disadvan. Urban	1992	30 (2.9)	259 (3.2)	55 (3.8)	291 (3.4)	16 (2.0)	302 (5.3)
	1990	38 (3.6)	250 (5.7)	51 (3.8)	288 (6.1)	11 (1.5)	317(13.9)
Extreme Rural	1992	29 (3.8)	263 (1.9)	55 (3.1)	302 (2.2)	16 (2.0)	321 (3.3)
	1990	34 (5.6)	263 (5.0)	53 (3.9)	308 (3.4)	12 (5.3)	325(12.4)
Other	1992	24 (1.4)	269 (2.1)>	57 (1.8)	310 (1.3)	20 (1.4)	322 (1.8)
	1990	28 (1.7)	258 (2.1)	55 (2.2)	309 (1.6)	17 (1.7)	324 (2.4)
Public Schools	1992	25 (1.5)<	266 (1.6)>	56 (1.6)	307 (1.2)	19 (1.3)	322 (1.6)
	1990	31 (1.7)	258 (1.6)	54 (1.8)	308 (1.5)	16 (1.7)	326 (2.3)
Private Schools	1992	15 (3.4)	296(11.9)	58 (5.6)	328 (3.8)>	27 (3.3)	326 (2.6)
	1990	14 (4.5)	265 (7.6)	69 (4.0)	304 (5.7)	17 (3.1)	313 (6.4)
Male	1992	24 (1.6)	272 (1.9)>	54 (1.7)	312 (1.2)	21 (1.3)	326 (2.0)
	1990	29 (1.8)	262 (1.6)	51 (2.2)	310 (1.6)	20 (1.8)	325 (2.4)
Female	1992	22 (1.3)<	263 (2.1)>	59 (1.7)	306 (1.3)	19 (1.4)	318 (1.9)
	1990	29 (1.9)	254 (2.5)	58 (1.9)	306 (1.6)	13 (1.4)	323 (3.0)
Northeast	1992	20 (1.9)	267 (3.2)	53 (3.2)	310 (1.5)	28 (3.0)	321 (2.0)
	1990	25 (2.7)	263 (3.6)	47 (4.2)	309 (2.3)	28 (4.0)	328 (4.0)
Southeast	1992	27 (3.6)	262 (3.6)	57 (3.1)	300 (2.5)	16 (2.2)	320 (2.4)
	1990	34 (4.5)	249 (3.8)	51 (2.6)	296 (2.7)	15 (4.1)	315 (3.3)
Central	1992	18 (1.6)<	272 (3.1)	61 (1.7)	311 (1.8)	21 (1.8)	320 (2.2)
	1990	31 (3.7)	262 (2.6)	56 (3.2)	314 (2.2)	14 (2.6)	326 (4.3)
West	1992	28 (2.9)	270 (2.8)>	57 (3.4)	313 (2.0)	15 (2.6)	327 (3.2)
	1990	28 (2.3)	257 (2.6)	63 (3.1)	309 (3.0)	10 (1.7)	322 (4.2)
Did Not Finish H.S.	1992	42 (3.3)<	261 (3.0)	46 (3.8)	292 (3.6)	12 (2.0)	306 (4.4)
	1990	57 (4.1)	251 (4.0)	35 (3.6)	290 (3.2)	8 (2.3)	309 (8.3)
Graduated H.S.	1992	34 (2.3)	263 (1.7)>	51 (2.0)	297 (1.7)	15 (1.4)	313 (2.5)
	1990	40 (2.7)	255 (2.4)	50 (2.3)	299 (2.2)	10 (1.3)	312 (6.1)
Some Ed. After H.S.	1992	23 (1.6)	268 (2.1)	60 (1.8)	308 (1.5)	17 (1.3)	319 (2.7)
	1990	25 (1.9)	264 (2.8)	58 (2.3)	307 (1.9)	17 (1.9)	325 (3.1)
Graduated College	1992	14 (1.2)	276 (3.0)>	60 (1.9)	317 (1.4)	25 (1.6)	328 (1.6)
	1990	18 (1.7)	263 (2.5)	60 (2.6)	316 (1.9)	21 (2.1)	329 (2.5)
Academic	1992	8 (0.6)<	286 (3.5)>	63 (1.7)	318 (1.0)>	29 (1.8)	327 (1.6)
	1990	12 (1.2)	270 (3.3)	65 (2.1)	313 (1.4)	23 (2.2)	329 (2.2)
General	1992	39 (2.1)<	263 (2.1)>	50 (2.1)	298 (1.5)	11 (1.2)>	313 (2.4)
	1990	51 (2.3)	255 (1.9)	43 (2.5)	295 (2.3)	6 (1.1)	303 (7.6)
Vocational/Technical	1992	55 (4.5)	262 (3.4)	38 (4.1)	292 (4.7)	7 (1.7)	295(11.5)
	1990	68 (4.3)	255 (3.3)	27 (3.5)	293 (5.1)	5 (2.2)	279(10.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 7.5 Average Proficiency in Data Analysis, Statistics and Probability by Statistics Course Taking, Grade 12

	Assessment Years	Have Not Studied Statistics		Have Studied Some Statistics	
		Percent of Students	Data Analysis Proficiency	Percent of Students	Data Analysis Proficiency
Nation	1992	83 (0.7)<	298 (1.0)>	17 (0.7)>	307 (2.1)
	1990	88 (1.2)	293 (1.1)	12 (1.2)	307 (3.0)
White	1992	84 (0.9)	303 (1.0)>	16 (0.9)	316 (2.2)
	1990	88 (1.5)	300 (1.3)	12 (1.5)	314 (3.4)
Black	1992	80 (1.9)	273 (2.1)	20 (1.9)	277 (3.0)
	1990	86 (2.7)	266 (2.5)	14 (2.7)	274 (5.7)
Hispanic	1992	84 (2.4)	285 (2.5)>	16 (2.4)	286 (5.7)
	1990	91 (2.0)	273 (3.7)	9 (2.0)	293 (8.0)
Asian/Pacific Islander	1992	70 (3.6)<	305 (4.7)	30 (3.6)>	313 (6.6)
	1990	90 (4.8)	304 (4.8)	10 (4.8)	330(10.1)
Advan. Urban	1992	75 (3.0)	312 (3.2)	25 (3.0)	323 (4.7)
	1990	84 (4.4)	303 (5.1)	16 (4.4)	310(19.1)
Disadvan. Urban	1992	84 (2.0)<	280 (2.8)	16 (2.0)>	282 (4.9)
	1990	90 (1.9)	274 (7.0)	10 (1.9)	283 (7.2)
Extreme Rural	1992	85 (1.2)	292 (1.9)	15 (1.2)	307 (5.4)
	1990	82 (3.3)	292 (2.3)	18 (3.3)	313 (6.0)
Other	1992	84 (1.1)	298 (1.0)	16 (1.1)	306 (2.3)
	1990	88 (1.6)	295 (1.4)	12 (1.6)	307 (3.3)
Public Schools	1992	84 (0.8)<	296 (1.2)	16 (0.8)>	305 (2.3)
	1990	88 (1.3)	293 (1.2)	12 (1.3)	308 (3.3)
Private Schools	1992	77 (4.0)	315 (4.2)>	23 (4.0)	325 (6.6)>
	1990	81 (5.1)	292 (6.3)	19 (5.1)	300 (5.5)
Male	1992	83 (0.9)	300 (1.1)>	18 (0.9)	306 (2.8)
	1990	86 (1.4)	295 (1.4)	14 (1.4)	309 (3.9)
Female	1992	84 (0.9)<	295 (1.3)>	16 (0.9)>	308 (2.1)
	1990	89 (1.4)	291 (1.5)	11 (1.4)	304 (4.0)
Northeast	1992	77 (2.2)	301 (1.7)	23 (2.2)	306 (2.8)
	1990	78 (4.6)	298 (2.6)	22 (4.6)	306 (5.5)
Southeast	1992	86 (0.8)<	291 (1.6)	14 (0.8)>	300 (3.9)
	1990	91 (1.1)	286 (2.5)	9 (1.1)	290 (5.7)
Central	1992	86 (1.2)<	302 (1.9)	14 (1.2)>	312 (3.5)
	1990	90 (1.4)	296 (2.2)	10 (1.4)	315 (6.3)
West	1992	83 (1.4)<	296 (2.3)	17 (1.4)>	309 (5.4)
	1990	90 (1.6)	291 (2.4)	10 (1.6)	312 (4.9)
Did Not Finish H.S.	1992	88 (2.2)	279 (1.8)>	12 (2.2)	286 (7.1)
	1990	89 (2.1)	271 (2.6)	11 (2.1)	294 (7.5)
Graduated H.S.	1992	86 (1.2)	288 (1.6)	14 (1.2)	297 (4.0)
	1990	89 (2.1)	284 (2.2)	11 (2.1)	291 (5.4)
Some Ed. After H.S.	1992	83 (1.3)	297 (1.4)	17 (1.3)	303 (2.6)
	1990	87 (1.7)	297 (1.3)	13 (1.7)	311 (4.9)
Graduated College	1992	81 (1.0)<	307 (1.1)>	19 (1.0)>	318 (2.8)
	1990	86 (1.5)	302 (1.6)	14 (1.5)	314 (3.9)
Academic	1992	80 (1.2)<	312 (0.9)>	20 (1.2)>	318 (1.9)
	1990	85 (1.4)	305 (1.3)	15 (1.4)	317 (3.1)
General	1992	86 (0.9)<	286 (1.2)>	14 (0.9)>	292 (3.1)
	1990	91 (1.7)	279 (1.4)	9 (1.7)	286 (5.3)
Vocational/Technical	1992	82 (2.8)<	279 (2.7)	18 (2.8)>	281 (7.5)
	1990	92 (1.7)	274 (2.6)	8 (1.7)	267 (8.1)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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Average Proficiency of Eighth-Grade Students by Algebra Course Taking

TABLE 7.6 Average Proficiency by Current Mathematics Course, Grade 8

		Algebra		Pre-Algebra		Eighth-Grade Mathematics		Other Mathematics	
	Assessment Years	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Nation	1992	20 (1.0)	299 (1.8)	28 (2.2)>	272 (1.5)	49 (2.5)<	255 (1.3)	3 (0.4)	249 (4.1)
	1990	16 (1.1)	295 (2.5)	20 (1.8)	271 (2.3)	61 (2.0)	252 (1.4)	3 (0.4)	257 (5.3)
White	1992	22 (1.3)	306 (1.6)	30 (2.5)>	278 (1.2)	45 (3.1)<	265 (1.3)>	3 (0.4)	258 (5.5)
	1990	18 (1.5)	300 (2.5)	22 (2.2)	277 (2.1)	57 (2.3)	260 (1.6)	3 (0.6)	265 (6.9)
Black	1992	13 (1.7)	258 (4.8)	23 (3.7)	246 (3.1)	60 (3.8)	230 (1.4)	4 (1.2)	232 (5.4)
	1990	9 (2.1)	263 (8.9)	16 (2.9)	246 (6.0)	71 (4.5)	234 (3.2)	2 (0.8)	228(14.5)
Hispanic	1992	12 (1.2)	277 (4.3)	20 (2.5)	256 (2.6)	62 (2.8)<	240 (1.5)	5 (0.8)	231 (7.0)
	1990	7 (1.5)	276 (8.3)	13 (3.5)	260 (4.9)	74 (3.9)	240 (2.7)	4 (0.9)	230 (9.8)
Asian/Pacific Islander	1992	42 (5.1)	313 (5.1)	24 (3.4)	278 (3.5)	32 (5.1)	264 (4.6)	2 (0.8)	277(32.0)
	1990	39 (6.6)!	303 (3.6)!	22 (6.1)!	285 (5.6)!	33 (6.3)!	251 (5.4)!	6 (2.3)!	297(12.1)!
Advan. Urban	1992	33 (4.2)	314 (2.4)	27 (3.8)	286 (2.9)	36 (5.6)	270 (4.8)	3 (0.7)	262(12.1)
	1990	23 (3.8)!	306 (3.7)!	23 (6.3)!	283 (5.7)!	52 (7.7)!	270 (2.5)!	2 (0.8)!	236(19.1)!
Disadvan. Urban	1992	15 (2.3)	267 (6.1)	14 (3.3)	251 (3.4)	67 (3.5)	230 (2.2)	3 (1.0)	246 (6.2)
	1990	15 (3.1)	285 (7.9)	16 (3.9)	250 (9.1)	64 (5.9)	241 (4.2)	4 (1.6)	252(13.6)
Extreme Rural	1992	10 (3.0)!	298 (7.2)!	38 (8.8)!	267 (8.8)!	50 (8.4)!	264 (5.3)!	3 (1.0)!	240(15.8)!
	1990	7 (2.2)!	297 (7.4)!	15 (5.1)!	270 (5.4)!	73 (4.6)!	250 (3.6)!	5 (1.8)!	275(22.6)!
Other	1992	20 (1.2)	298 (2.0)	29 (2.6)	272 (1.4)	48 (3.1)<	256 (1.6)	4 (0.5)	249 (5.2)
	1990	16 (1.5)	294 (2.9)	20 (2.0)	272 (2.6)	60 (2.2)	252 (2.0)	3 (0.5)	256 (6.6)
Public School	1992	19 (1.2)	299 (2.0)	28 (2.5)>	271 (1.7)	50 (2.9)<	253 (1.5)	4 (0.4)	248 (4.5)
	1990	15 (1.2)	298 (2.4)	19 (1.9)	271 (2.6)	62 (2.1)	251 (1.4)	3 (0.5)	257 (5.6)
Private School	1992	25 (2.5)	301 (2.8)>	33 (2.8)	278 (2.9)	40 (3.3)	270 (2.6)	2 (0.7)	266 (6.7)
	1990	24 (4.6)	279 (6.1)	28 (4.2)	272 (3.2)	46 (5.6)	268 (2.3)	2 (0.7)	264 (8.6)
Male	1992	19 (1.0)	299 (2.1)	28 (2.4)>	272 (1.7)	49 (2.6)<	255 (1.4)	4 (0.3)	249 (5.6)
	1990	16 (1.2)	298 (3.0)	19 (1.7)	275 (2.8)	62 (2.1)	253 (1.6)	3 (0.4)	254 (6.1)
Female	1992	20 (1.3)	300 (2.1)	28 (2.2)	272 (1.8)	48 (2.7)<	254 (1.5)	3 (0.5)	250 (5.4)
	1990	16 (1.6)	293 (2.8)	21 (2.1)	268 (2.8)	60 (2.4)	252 (1.5)	4 (0.7)	260 (8.6)
Northeast	1992	26 (2.1)	297 (4.5)	24 (2.2)	273 (3.1)	46 (2.6)<	254 (3.6)	4 (0.6)	262 (9.3)
	1990	18 (2.7)	296 (3.3)	18 (3.7)	277 (6.3)	60 (5.0)	260 (2.9)	3 (1.1)	282(12.1)
Southeast	1992	17 (2.1)	294 (2.6)	32 (4.8)	267 (3.4)	48 (5.4)	247 (2.6)	3 (1.0)	235 (7.5)
	1990	12 (2.2)	295 (6.4)	23 (4.2)	270 (4.3)	62 (3.9)	244 (3.5)	2 (0.6)	237 (6.8)
Central	1992	18 (2.4)	304 (1.7)>	26 (4.0)	276 (1.9)	53 (5.0)	264 (2.5)	3 (0.5)	259 (8.6)
	1990	16 (2.9)	291 (4.6)	22 (3.6)	275 (3.2)	58 (4.2)	257 (2.9)	4 (0.9)	273 (6.3)
West	1992	19 (1.7)	302 (3.7)	30 (5.2)	273 (2.5)	48 (5.8)	253 (2.5)	3 (0.6)	241 (7.4)
	1990	17 (1.7)	299 (4.7)	16 (2.7)	265 (3.9)	63 (2.6)	251 (2.2)	4 (0.9)	242 (9.6)
Did Not Finish H.S.	1992	6 (1.0)	268 (5.6)	23 (2.8)	261 (4.5)	64 (3.2)	246 (2.4)	6 (1.5)	228 (6.1)
	1990	3 (1.1)	276 (9.5)	15 (3.3)	254 (4.5)	76 (3.7)	240 (2.0)	4 (1.5)	225(14.1)
Graduated H.S.	1992	11 (1.0)	281 (3.4)	28 (3.3)	265 (2.5)	56 (3.4)<	249 (1.4)	4 (0.6)	241 (7.0)
	1990	9 (1.2)	273 (5.4)	18 (2.3)	266 (3.4)	69 (2.5)	250 (1.8)	4 (0.8)	253 (9.1)
Some Ed. After H.S.	1992	19 (1.3)	298 (3.0)	29 (3.0)	273 (1.6)	49 (3.6)	261 (1.6)	3 (0.6)	250 (8.7)
	1990	16 (1.8)	296 (3.4)	21 (2.7)	275 (2.8)	59 (2.8)	259 (1.9)	4 (0.9)	260 (9.5)
Graduated College	1992	29 (1.7)	306 (1.6)	30 (2.2)>	278 (1.6)	38 (2.5)<	263 (1.9)	2 (0.4)	273 (6.6)
	1990	24 (1.7)	302 (2.6)	22 (2.1)	277 (2.6)	52 (2.6)	260 (1.6)	2 (0.4)	286 (6.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. ! Interpret with caution--the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 7.7 | Average Proficiency by Current Mathematics Course

	Grade 8 - 1992							
	Algebra		Pre-Algebra		Eighth-Grade Mathematics		Other Mathematics	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	19 (1.2)	299 (2.0)	28 (2.5)	271 (1.7)	50 (2.9)	253 (1.5)	3 (0.4)	248 (4.5)
Northeast	26 (3.0)	296 (4.9)	22 (2.5)	272 (3.5)	47 (3.0)	252 (3.9)	4 (0.8)	*** (***)
Southeast	16 (2.2)	292 (2.9)	31 (5.2)	265 (3.8)	50 (5.7)	246 (2.9)	3 (1.1)	*** (***)
Central	17 (2.6)	305 (2.3)	27 (4.6)	275 (2.0)	53 (5.8)	263 (3.1)	3 (0.5)	*** (***)
West	18 (1.7)	302 (4.1)	29 (5.7)	273 (2.6)!	49 (6.3)	253 (2.6)	3 (0.6)	*** (***)
STATES								
Alabama	15 (1.4)	283 (3.4)	18 (1.8)	264 (2.9)	63 (2.2)	241 (1.8)	4 (0.7)	235 (5.2)
Arizona	20 (1.4)	289 (3.0)	31 (2.6)	269 (1.5)	44 (2.9)	252 (1.6) >	5 (0.4)	248 (4.0)
Arkansas	15 (1.2) >	290 (2.5)	19 (2.0)	265 (2.0)	64 (2.4) <	246 (1.1)	2 (0.4)	*** (***)
California	21 (1.1) >	290 (2.2)	21 (1.7)	271 (2.9)	53 (1.7)	247 (1.9)	4 (0.7)	234 (5.0) <
Colorado	21 (1.2)	297 (1.8)	36 (2.3)	269 (1.6)	38 (2.5)	261 (1.9) >	4 (0.6)	265 (5.7)
Connecticut	20 (1.1)	305 (1.8)	31 (1.9)	280 (1.7)	46 (2.2)	257 (1.4) >	3 (0.6)	255 (6.6)
Delaware	23 (1.1)	294 (1.8)	34 (1.0) »	264 (1.2)	41 (1.3) «	244 (1.0)	2 (0.3)	*** (***)
Dist. Columbia	35 (1.1)	251 (1.4)	19 (1.1) »	236 (2.0)	42 (1.2) «	219 (1.3)	3 (0.5)	*** (***)
Florida	23 (2.3) >	290 (2.5)	25 (1.8) >	267 (1.9)	49 (2.3) «	242 (1.5)	4 (0.5)	234 (7.2)
Georgia	18 (1.5)	291 (3.9)	31 (2.0)	265 (1.6) <	49 (2.5)	244 (1.6)	2 (0.4)	*** (***)
Hawaii	12 (0.6)	297 (2.1)	27 (0.8)	273 (1.3)	55 (1.0) «	244 (1.0) »	6 (0.5)	223 (4.1)
Idaho	18 (1.3)	303 (1.5)	41 (1.9) »	275 (1.3) >	36 (2.2) «	263 (1.2)	5 (0.5)	247 (4.1)
Indiana	16 (1.0)	306 (1.9)	15 (2.0)	282 (2.0)	67 (1.9)	258 (1.2)	2 (0.3)	*** (***)
Iowa	14 (1.5)	313 (2.0)	24 (2.6)	287 (1.8)	60 (3.3)	275 (1.5)	2 (0.3)	*** (***)
Kentucky	16 (1.3)	295 (2.6)	22 (1.7)	270 (1.9)	60 (2.2) <	251 (1.3)	3 (0.4)	241 (7.4)
Louisiana	12 (1.3)	273 (3.6)	61 (3.0) »	247 (1.9)	26 (3.2) «	243 (2.3)	1 (0.2)	*** (***)
Maine	18 (1.5)	306 (2.0)	28 (1.9)	281 (1.4)	51 (2.3)	268 (1.5)	3 (0.5)	*** (***)
Maryland	32 (1.7) >	288 (2.1)	31 (1.4)	261 (1.6)	33 (1.8)	243 (1.7)	4 (0.5)	277 (6.9)
Massachusetts	26 (1.6)	298 (1.9)	33 (1.9)	276 (1.7)	38 (2.2)	254 (1.6)	3 (0.6)	252 (7.5)
Michigan	19 (2.2)	293 (3.7)	23 (2.2)	274 (2.3)	55 (2.9)	255 (1.4)	3 (0.5)	261 (5.8)
Minnesota	23 (2.1)	307 (2.1)	33 (3.0)	279 (1.6)	42 (3.1) <	270 (1.3)	3 (0.5)	281 (9.2)
Mississippi	13 (1.0)	282 (2.6)	19 (2.1)	259 (1.9)	67 (2.4)	235 (1.2)	2 (0.4)	*** (***)
Missouri	13 (1.2)	305 (2.5)	26 (1.9)	278 (2.0)	59 (2.6)	261 (1.3)	2 (0.4)	238 (6.3)
Nebraska	17 (1.9) >	303 (2.6)	25 (2.5)	272 (2.5)	55 (3.3) <	272 (1.4)	3 (0.7)	262 (4.8)!
New Hampshire	18 (1.3)	307 (2.2)	35 (2.3)	279 (1.2)	45 (2.4) «	266 (1.2) >	2 (0.3)	*** (***)
New Jersey	19 (1.3)	304 (2.5)	23 (2.0)	278 (2.3)	54 (2.1)	258 (2.0)	3 (0.4)	261 (5.3) <
New Mexico	13 (1.0)	287 (2.1)	25 (2.2)	267 (2.0)	58 (2.5)	250 (1.2)	4 (0.3)	249 (3.6) <
New York	13 (1.3)	295 (4.1)	9 (1.2)	282 (3.6)	70 (1.8)	258 (2.1)	8 (0.8)	280 (5.9)
North Carolina	22 (1.4)	291 (1.7)	30 (2.6) >	261 (1.6)	45 (2.9) «	241 (1.8) >	3 (0.4)	231 (7.0)
North Dakota	12 (1.5)	309 (2.4)	30 (2.8) »	283 (1.7)	57 (3.3) «	278 (1.7)	2 (0.3)	*** (***)
Ohio	13 (1.1)	304 (1.6)	24 (2.9)	277 (2.8)	61 (3.2)	256 (2.1)	1 (0.4)	*** (***)
Oklahoma	16 (1.2)	296 (1.7)	36 (2.8)	272 (1.7)	45 (3.0)	256 (1.8)	3 (0.4)	*** (***)
Pennsylvania	27 (1.7)	296 (1.9)	27 (2.4)	271 (2.0)	42 (2.5)	256 (1.7) >	3 (0.4)	239 (7.6)
Rhode Island	21 (0.9) »	295 (1.5)	31 (0.9)	268 (1.2) <	45 (0.9) «	250 (0.8) »	2 (0.3)	*** (***)
South Carolina	17 (0.9)	301 (1.9)	17 (1.4)	272 (2.9)	63 (1.5)	248 (1.1)	3 (0.6)	235 (3.7)
Tennessee	11 (1.4)	290 (3.0)	14 (1.5)	271 (2.6)	73 (2.4)	252 (1.5)	3 (0.6)	*** (***)
Texas	17 (1.2) >	302 (2.5)	18 (1.8)	273 (1.9)	62 (2.5) <	252 (1.1)	2 (0.3)	*** (***)
Utah	32 (1.2)	296 (1.3)	38 (1.6)	270 (1.2)	25 (1.8)	251 (1.9)	5 (0.6)	275 (5.2)
Virginia	19 (1.1)	303 (1.8)	41 (2.3)	269 (1.7)	38 (2.2) <	248 (1.4)	2 (0.4)	*** (***)
West Virginia	21 (1.5)	288 (1.7)	27 (1.9) >	264 (1.5)	50 (2.0) «	244 (1.0)	2 (0.3)	*** (***)
Wisconsin	14 (1.5)	304 (3.0)	20 (2.6)	284 (3.6)	63 (3.0)	271 (1.9)	3 (0.4)	253 (7.1)
Wyoming	18 (1.2)	301 (1.6)	33 (1.4)	273 (1.2)	44 (2.0)	266 (1.4)	4 (0.4)	253 (2.3)
TERRITORIES								
Guam	11 (0.7) »	270 (3.0)	22 (1.1) »	258 (2.0)	64 (1.2) «	222 (1.2) <	3 (0.4)	*** (***)
Virgin Islands	6 (0.5)	249 (3.9)	14 (0.7) »	231 (2.5)	78 (0.9) «	219 (1.2)	2 (0.4)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. The percentages may not add to 100 percent because a small number of students reported not taking a mathematics course. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 7.7 | Average Proficiency by Current Mathematics Course (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Algebra		Pre-Algebra		Eighth-Grade Mathematics		Other Mathematics	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	15 (1.2)	298 (2.4)	19 (1.9)	271 (2.6)	62 (2.1)	251 (1.4)	3 (0.5)	257 (5.6)
Northeast	18 (3.3)	299 (3.2)	16 (3.9)	278 (8.5)!	63 (5.8)	259 (3.1)	3 (1.2)	*** (***)
Southeast	11 (2.2)	301 (5.9)!	23 (4.4)	270 (4.8)!	64 (3.7)	243 (3.5)	2 (0.6)	*** (***)
Central	15 (2.8)	290 (5.3)	22 (4.3)	275 (3.1)!	59 (4.9)	255 (3.1)	4 (1.0)	*** (***)
West	17 (1.9)	300 (4.4)	15 (2.7)	265 (4.0)	63 (2.8)	251 (2.2)	4 (1.0)	*** (***)
STATES								
Alabama	11 (1.2)	286 (3.1)	20 (1.9)	268 (2.4)	66 (2.5)	244 (1.6)	2 (0.5)	*** (***)
Arizona	18 (1.3)	290 (2.4)	29 (1.6)	266 (1.8)	48 (1.5)	246 (1.6)	5 (0.5)	252 (4.3)
Arkansas	10 (1.2)	289 (2.6)	16 (1.9)	270 (2.5)	72 (2.2)	249 (1.0)	2 (0.4)	*** (***)
California	16 (1.0)	293 (2.3)	21 (1.4)	272 (2.5)	59 (1.9)	243 (1.2)	4 (0.5)	253 (5.1)
Colorado	18 (1.1)	296 (2.2)	32 (2.1)	270 (1.3)	46 (2.5)	255 (1.3)	4 (0.6)	269 (5.6)
Connecticut	17 (1.0)	308 (1.3)	30 (1.8)	280 (1.0)	50 (1.9)	252 (1.2)	2 (0.5)	273 (6.3)
Delaware	24 (0.9)	294 (1.8)	25 (1.2)	264 (1.7)	48 (1.2)	244 (1.1)	3 (0.3)	*** (***)
Dist. Columbia	32 (0.9)	254 (1.5)	10 (0.6)	242 (2.3)	57 (1.0)	218 (0.8)	2 (0.3)	*** (***)
Florida	14 (1.0)	297 (2.0)	19 (1.2)	270 (2.2)	63 (1.6)	242 (1.3)	4 (0.5)	257 (6.4)
Georgia	14 (1.3)	300 (2.9)	28 (1.9)	271 (1.9)	57 (2.5)	245 (1.2)	2 (0.4)	*** (***)
Hawaii	10 (0.6)	297 (2.7)	24 (0.9)	273 (1.4)	61 (1.0)	238 (0.9)	5 (0.5)	232 (4.9)
Idaho	18 (1.1)	300 (1.4)	32 (1.2)	271 (0.9)	47 (1.1)	264 (0.8)	3 (0.4)	234 (3.6)
Indiana	14 (1.1)	307 (2.4)	16 (1.8)	282 (2.4)	68 (2.1)	257 (1.2)	3 (0.5)	262 (4.4)
Iowa	10 (1.0)	309 (2.8)	19 (2.7)	287 (2.4)	69 (2.8)	272 (1.2)	2 (0.3)	*** (***)
Kentucky	12 (1.2)	289 (2.6)	18 (1.7)	270 (2.0)	67 (2.2)	248 (1.3)	2 (0.4)	*** (***)
Louisiana	12 (1.1)	265 (4.2)	34 (2.6)	252 (2.5)	53 (2.9)	240 (1.5)	1 (0.3)	*** (***)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	27 (1.5)	291 (1.9)	32 (1.4)	262 (1.7)	38 (2.1)	238 (1.5)	4 (0.5)	282 (7.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	14 (1.4)	300 (2.5)	24 (2.1)	272 (1.6)	60 (2.8)	254 (1.4)	3 (0.4)	267 (5.4)
Minnesota	17 (1.4)	302 (2.1)	25 (2.4)	281 (1.4)	54 (3.0)	266 (1.4)	4 (0.4)	273 (4.8)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	11 (1.0)	306 (2.3)	20 (2.1)	277 (1.7)	66 (2.5)	271 (1.4)	4 (0.4)	273 (4.0)
New Hampshire	14 (0.9)	308 (1.8)	28 (1.0)	279 (1.2)	55 (1.3)	262 (1.1)	2 (0.3)	*** (***)
New Jersey	18 (1.1)	305 (1.5)	24 (2.1)	275 (2.0)	55 (2.2)	256 (1.2)	3 (0.5)	283 (6.0)
New Mexico	11 (0.6)	288 (2.1)	23 (1.1)	266 (1.4)	62 (1.2)	248 (0.8)	4 (0.6)	267 (4.5)
New York	13 (1.1)	290 (3.0)	8 (1.2)	274 (2.8)	73 (1.8)	252 (1.5)	6 (0.7)	294 (3.3)
North Carolina	17 (1.3)	290 (1.5)	22 (1.4)	262 (1.5)	59 (1.8)	235 (1.3)	2 (0.3)	*** (***)
North Dakota	8 (1.0)	307 (5.0)	17 (1.9)	289 (2.7)	73 (2.0)	277 (1.4)	2 (0.2)	*** (***)
Ohio	16 (1.1)	299 (1.9)	20 (2.0)	270 (2.0)	63 (2.2)	254 (1.2)	2 (0.2)	*** (***)
Oklahoma	13 (1.1)	291 (3.5)	30 (2.7)	267 (2.0)	54 (2.7)	255 (1.6)	3 (0.5)	265 (5.8)
Pennsylvania	25 (1.6)	296 (1.6)	24 (2.2)	275 (1.5)	49 (2.6)	248 (1.6)	3 (0.4)	258 (6.0)
Rhode Island	16 (0.8)	295 (2.0)	29 (0.8)	272 (1.2)	52 (1.1)	244 (0.9)	3 (0.4)	254 (5.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	12 (1.0)	297 (2.2)	14 (1.5)	273 (2.8)	72 (2.0)	250 (1.4)	2 (0.5)	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	16 (1.0)	305 (2.5)	35 (1.8)	271 (1.8)	46 (2.0)	244 (1.6)	3 (0.4)	278 (7.7)
West Virginia	17 (1.2)	291 (2.0)	19 (1.8)	267 (1.2)	64 (2.0)	244 (1.3)	1 (0.3)	*** (***)
Wisconsin	13 (1.3)	306 (2.1)	17 (1.8)	283 (2.3)	68 (2.5)	267 (1.4)	2 (0.4)	*** (***)
Wyoming	16 (0.8)	302 (1.1)	31 (0.9)	270 (1.4)	48 (1.0)	266 (0.9)	5 (0.3)	255 (3.6)
TERRITORIES								
Guam	7 (0.6)	278 (4.6)	12 (0.7)	255 (2.3)	77 (1.0)	226 (0.7)	4 (0.5)	*** (***)
Virgin Islands	6 (0.6)	238 (5.1)	3 (0.5)	*** (***)	89 (0.9)	217 (1.0)	2 (0.3)	*** (***)

The percentages may not add to 100 percent because a small number of students reported not taking a mathematics course.

TABLE 7.8 Average Proficiency by Which Mathematics Class Plan to Take in Ninth Grade, Grade 8

	I Don't Know		Basic, General, Business or Consumer Mathematics		Pre-Algebra		Algebra I or Elementary Algebra		Geometry	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Nation	21 (1.1)	256 (1.5)	8 (0.7)	240 (2.0)	15 (0.9)	253 (1.3)	36 (1.4)	276 (0.9)	14 (0.8)	295 (1.8)
White	20 (1.3)	265 (2.0)	7 (0.7)	250 (1.8)	14 (1.0)	262 (1.6)	40 (1.6)	282 (0.9)	15 (1.0)	305 (1.5)
Black	24 (1.5)	235 (2.1)	13 (1.6)	219 (3.3)	19 (2.0)	229 (2.5)	28 (2.9)	247 (2.3)	12 (1.2)	252 (4.5)
Hispanic	28 (1.5)	236 (2.4)	12 (1.5)	235 (3.5)	21 (2.1)	244 (2.2)	23 (1.9)	260 (2.0)	11 (1.2)	273 (4.8)
Asian/Pac. Islander	22 (3.4)	276 (6.5)	4 (1.1)	264(10.0)	7 (2.5)	242 (7.3)	33 (3.5)	282 (3.2)	31 (4.9)	313 (6.6)
Advan. Urban	21 (3.9)	284 (6.3)	4 (1.3)	245 (9.5)	12 (2.1)	263 (4.5)	36 (3.0)	288 (2.5)	20 (2.7)	314 (3.1)
Disadvan. Urban	27 (2.5)	237 (2.5)	16 (1.5)	224 (5.0)	17 (2.2)	228 (4.0)	21 (2.8)	252 (3.2)	14 (1.6)	256 (5.8)
Extreme Rural	21 (2.4)	254 (5.8)	8 (2.2)	249 (3.9)	14 (3.1)	262 (6.2)	42 (4.8)	274 (6.7)	8 (2.0)	284(10.8)
Other	21 (1.1)	256 (1.2)	8 (0.9)	242 (2.2)	16 (1.0)	254 (1.5)	36 (1.7)	276 (1.1)	14 (1.0)	297 (1.9)
Public School	21 (1.2)	254 (1.8)	9 (0.8)	239 (2.1)	16 (1.0)	252 (1.4)	35 (1.6)	275 (1.0)	14 (0.9)	294 (1.9)
Private School	22 (3.0)	276 (5.3)	5 (0.8)	257 (4.6)	9 (1.3)	260 (4.2)	44 (1.8)	282 (2.0)	15 (1.8)	301 (3.5)
Male	20 (1.0)	256 (1.9)	9 (0.8)	240 (2.5)	15 (1.0)	255 (1.7)	36 (1.6)	275 (1.1)	14 (0.8)	293 (1.9)
Female	22 (1.4)	256 (2.1)	8 (0.7)	239 (2.3)	16 (1.0)	251 (1.6)	35 (1.6)	277 (1.2)	14 (1.1)	297 (2.5)
Northeast	28 (3.5)	262 (4.3)	10 (0.7)	243 (2.5)	9 (1.3)	252 (4.4)	32 (2.3)	276 (2.2)	12 (1.6)	292 (4.8)
Southeast	19 (1.4)	247 (1.8)	8 (1.2)	235 (4.4)	16 (1.8)	244 (2.1)	39 (2.8)	270 (1.7)	14 (1.3)	288 (3.0)
Central	18 (1.6)	264 (2.4)	9 (1.5)	240 (3.8)	17 (2.0)	261 (2.9)	37 (2.5)	281 (1.8)	16 (2.1)	301 (2.5)
West	21 (1.9)	252 (2.3)	7 (1.5)	241 (4.3)	18 (1.8)	253 (1.8)	35 (3.3)	277 (1.6)	16 (1.5)	297 (3.7)
Did Not Finish H.S.	29 (3.0)	239 (2.8)	15 (2.0)	239 (3.0)	19 (2.3)	246 (2.4)	26 (2.3)	267 (3.2)	7 (1.1)	258 (6.1)
Graduated H.S.	22 (1.7)	250 (2.4)	13 (1.4)	238 (2.9)	19 (1.5)	249 (1.9)	33 (2.5)	268 (1.8)	8 (0.7)	278 (3.4)
Some Ed. After H.S.	19 (1.6)	262 (2.0)	8 (0.9)	242 (3.4)	15 (1.2)	257 (2.5)	41 (2.1)	278 (1.4)	13 (1.2)	293 (3.9)
Graduated College	17 (1.2)	271 (3.1)	5 (0.6)	241 (3.3)	12 (1.0)	258 (2.1)	39 (1.4)	281 (1.1)	22 (1.3)	303 (1.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. The percentages may not add to 100 percent because a small number of students reported planning to take other mathematics courses.

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TABLE 7.9 | Average Proficiency by Which Mathematics Class Plan to Take in Ninth Grade

	Grade 8 - 1992									
	I Don't Know		Basic, General, Business or Consumer Mathematics		Pre-Algebra		Algebra I or Elementary Algebra		Geometry	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (1.2)	254 (1.8)	9 (0.8)	239 (2.1)	16 (1.0)	253 (1.4)	35 (1.6)	275 (1.0)	14 (0.9)	294 (1.9)
Northeast	28 (4.0)	260 (4.9)	11 (0.9)	241 (2.9)	9 (1.7)	251 (4.8)	30 (2.5)	275 (2.6)	11 (1.7)	288 (5.1)
Southeast	19 (1.5)	244 (1.7)	9 (1.4)	235 (4.4)	17 (1.9)	244 (2.1)	38 (3.1)	268 (2.0)	13 (1.3)	287 (3.3)
Central	17 (1.9)	263 (3.1)	10 (1.7)	239 (4.0)	18 (2.0)	261 (3.1)	36 (2.7)	280 (2.1)	16 (2.3)	302 (2.7)
West	21 (2.0)	251 (2.4)	7 (1.6)	240 (4.5)!	19 (1.9)	253 (1.8)	34 (3.6)	277 (1.7)	16 (1.7)	297 (3.9)
STATES										
Alabama	25 (1.1)	240 (1.7)	13 (0.9)	235 (2.2)	17 (1.1)	243 (2.2)	29 (1.1)	264 (1.9)	12 (1.2)	278 (3.7)
Arizona	21 (1.1)	253 (1.9)	9 (0.7)	242 (2.4)	19 (1.2)	252 (1.5)	36 (1.6)	272 (1.2)	11 (1.0)	295 (3.0)
Arkansas	25 (1.3)	244 (1.5)	7 (0.7)	233 (2.4)	20 (1.1)	246 (1.7)	32 (1.5)	264 (1.7)	11 (1.1)	286 (2.9)
California	25 (1.2)	246 (2.3)	9 (0.6)	236 (2.5)	17 (1.0)	249 (2.7)	28 (1.4)	273 (2.3)	18 (1.1)	286 (2.5)
Colorado	19 (1.1)	257 (1.8)	5 (0.5)	248 (3.6)	15 (0.9)	257 (2.2)	38 (1.7)	276 (1.4)	19 (1.1)	294 (1.8)
Connecticut	19 (1.2)	253 (2.1)	8 (0.8)	241 (3.0)	13 (1.1)	256 (2.1)	40 (1.6)	283 (1.0)	16 (1.1)	304 (2.0)
Delaware	23 (1.0)	251 (2.1)	9 (0.8)	237 (2.7)	15 (1.0)	247 (1.7)	34 (1.1)	267 (1.5)	16 (0.8)	292 (2.2)
Dist. Columbia	25 (1.0)	226 (1.8)	6 (0.7)	214 (3.0)	10 (0.6)	217 (2.9)	19 (1.0)	239 (2.1)	36 (1.1)	245 (1.4)
Florida	20 (1.1)	246 (1.9)	8 (0.6)	232 (2.8)	23 (1.3)	245 (1.5)	28 (1.4)	269 (1.5)	18 (1.5)	286 (2.3)
Georgia	22 (1.2)	249 (1.6)	7 (0.7)	233 (2.5)	19 (1.4)	247 (2.2)	33 (1.2)	268 (1.2)	15 (1.3)	281 (2.6)
Hawaii	25 (1.0)	235 (1.9)	9 (0.5)	238 (2.0)	25 (0.9)	254 (1.1)	25 (0.8)	276 (1.5)	11 (0.6)	293 (2.1)
Idaho	20 (1.0)	265 (1.5)	5 (0.5)	249 (2.5)	17 (1.0)	259 (1.6)	41 (1.2)	279 (1.1)	14 (1.1)	303 (1.6)
Indiana	17 (1.1)	254 (2.2)	13 (0.7)	242 (1.8)	21 (1.1)	259 (1.4)	33 (1.4)	281 (1.2)	13 (1.0)	303 (2.4)
Iowa	18 (1.7)	273 (1.9)	9 (0.8)	256 (2.5)	16 (1.1)	269 (1.4)	42 (1.6)	290 (1.5)	10 (1.3)	310 (2.2)
Kentucky	24 (1.2)	249 (1.6)	10 (0.8)	238 (1.9)	18 (1.0)	251 (1.7)	32 (1.3)	272 (1.4)	10 (0.9)	292 (2.8)
Louisiana	23 (0.9)	243 (2.2)	6 (0.6)	234 (3.7)	7 (0.7)	237 (3.3)	49 (1.5)	252 (1.6)	14 (1.1)	263 (3.4)
Maine	21 (1.3)	271 (1.5)	10 (0.6)	251 (2.4)	14 (0.9)	266 (2.0)	38 (1.9)	282 (1.3)	13 (0.9)	307 (2.1)
Maryland	16 (1.1)	243 (2.4)	8 (0.6)	233 (2.4)	12 (1.0)	247 (2.0)	34 (1.3)	269 (1.5)	23 (1.6)	287 (3.0)
Massachusetts	23 (1.3)	261 (2.3)	8 (0.7)	245 (2.2)	10 (0.9)	257 (2.3)	38 (1.5)	278 (1.1)	15 (1.1)	297 (2.2)
Michigan	27 (1.5)	258 (1.9)	10 (0.8)	248 (2.0)	15 (1.2)	250 (2.1)	30 (1.4)	277 (1.4)	15 (1.4)	293 (2.3)
Minnesota	18 (1.4)	269 (1.5)	4 (0.5)	249 (3.4)	11 (1.0)	263 (2.1)	45 (1.9)	283 (1.3)	18 (1.7)	309 (2.3)
Mississippi	19 (1.1)	236 (1.9)	10 (0.9)	226 (2.5)	21 (1.2)	235 (1.6)	35 (1.5)	255 (1.4)	11 (1.0)	266 (3.0)
Missouri	19 (1.3)	256 (1.9)	10 (0.8)	248 (2.0)	22 (1.1)	260 (1.2)	35 (1.3)	282 (1.4)	11 (1.0)	299 (3.8)
Nebraska	21 (1.5)	265 (1.8)	5 (0.6)	252 (3.1)	15 (1.2)	263 (2.3)	41 (2.0)	284 (1.5)	15 (1.3)	298 (2.6)
New Hampshire	20 (1.4)	269 (1.5)	7 (0.7)	253 (2.2)	14 (1.1)	262 (1.7)	43 (1.7)	283 (1.1)	12 (0.8)	308 (2.4)
New Jersey	19 (1.6)	255 (3.1)	10 (0.9)	240 (3.3)	12 (0.9)	261 (2.2)	39 (1.9)	280 (1.3)	16 (1.2)	297 (3.0)
New Mexico	27 (1.3)	248 (1.4)	10 (0.8)	241 (1.9)	17 (1.2)	249 (1.6)	32 (1.6)	271 (1.5)	9 (0.8)	284 (2.8)
New York	47 (1.8)	263 (2.1)	14 (0.9)	250 (2.4)	6 (0.6)	263 (4.7)	12 (1.0)	280 (2.7)	9 (0.9)	273 (5.0)
North Carolina	17 (1.0)	243 (2.1)	7 (0.6)	233 (2.8)	17 (0.9)	240 (2.1)	37 (1.3)	262 (1.3)	20 (1.1)	287 (1.7)
North Dakota	21 (1.6)	274 (2.0)	3 (0.6)	262 (2.9)	11 (1.0)	270 (2.1)	53 (1.8)	286 (1.3)	9 (0.8)	308 (2.2)
Ohio	17 (1.3)	252 (1.7)	13 (1.0)	244 (1.9)	23 (1.9)	259 (3.0)	32 (2.4)	281 (1.7)	11 (1.0)	299 (2.4)
Oklahoma	22 (1.1)	257 (1.9)	5 (0.6)	236 (4.3)	16 (1.3)	255 (2.5)	43 (1.8)	274 (1.4)	11 (0.8)	295 (2.6)
Pennsylvania	18 (1.4)	260 (2.2)	10 (0.9)	244 (2.1)	13 (0.9)	254 (2.3)	35 (1.8)	274 (1.6)	18 (1.9)	296 (2.3)
Rhode Island	22 (0.9)	256 (1.6)	8 (0.5)	240 (2.1)	14 (0.9)	254 (2.0)	38 (1.0)	269 (1.1)	10 (0.6)	287 (2.5)
South Carolina	20 (1.1)	246 (1.6)	11 (0.8)	234 (2.2)	20 (1.0)	248 (1.6)	30 (1.3)	269 (1.5)	15 (1.0)	290 (2.4)
Tennessee	23 (1.0)	249 (2.1)	9 (0.8)	236 (1.8)	22 (1.1)	249 (1.9)	33 (1.3)	271 (1.4)	9 (1.2)	281 (3.4)
Texas	25 (1.3)	250 (1.7)	6 (0.5)	239 (3.4)	22 (1.2)	251 (1.8)	30 (1.6)	274 (1.8)	15 (1.0)	299 (2.6)
Utah	13 (0.8)	259 (2.1)	3 (0.4)	237 (4.0)	16 (1.0)	254 (1.5)	38 (1.0)	272 (1.1)	25 (0.9)	297 (1.2)
Virginia	15 (0.9)	243 (1.6)	6 (0.6)	235 (2.4)	11 (0.9)	247 (1.9)	47 (1.6)	271 (1.1)	17 (0.9)	302 (2.1)
West Virginia	21 (1.0)	244 (2.1)	9 (0.6)	237 (1.6)	15 (1.2)	244 (1.5)	34 (1.4)	264 (1.1)	17 (1.2)	286 (1.7)
Wisconsin	17 (1.4)	263 (3.8)	9 (0.9)	252 (3.2)	17 (1.1)	265 (2.5)	41 (1.6)	286 (1.3)	12 (1.2)	304 (2.2)
Wyoming	25 (1.1)	266 (1.7)	5 (0.6)	249 (2.1)	16 (1.0)	262 (1.6)	38 (1.1)	279 (0.8)	13 (1.0)	301 (2.1)
TERRITORIES										
Guam	41 (1.5)	225 (1.5)	10 (0.6)	224 (2.9)	18 (0.9)	231 (2.1)	18 (1.0)	266 (1.9)	9 (0.9)	253 (3.6)
Virgin Islands	31 (1.0)	219 (1.6)	19 (1.1)	221 (1.8)	20 (0.9)	221 (2.3)	15 (1.3)	227 (2.3)	10 (0.8)	231 (3.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. The percentages may not add to 100 percent because a small number of students reported planning to take other mathematics courses. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

Schools' Reports on Percentages of Students in Schools with Various Course Offerings, by Region and Type of Community

TABLE 7.10 Schools' Reports on Percentages of Students in Schools with Various Course Offerings, by Region and Type of Community, Grade 12

	Yes, the Following Courses Are Offered.			
	Trigonometry	**Probability/ Statistics**	**Precalculus/ Third-year Algebra**	**Calculus**
Nation	86 (2.5)	33 (3.3)	95 (1.3)	86 (2.1)
Region				
Northeast	95 (2.4)	44 (7.2)	97 (1.7)	96 (2.1)
Southeast	84 (4.4)	26 (4.6)	88 (4.9)	78 (3.9)
Central	82 (6.8)	40 (8.0)	97 (1.6)	81 (6.3)
West	86 (5.2)	25 (5.6)	99 (0.9)	89 (2.9)
Community Type				
Advan. Urban	94 (4.2)	50 (9.1)	98 (1.6)	99 (0.9)
Disadvan. Urban	97 (2.0)	38 (8.0)	89 (4.9)	81 (6.2)
Extreme Rural	76(11.5)	14(11.0)	87 (5.6)	56 (6.9)
Other	85 (3.2)	33 (3.6)	98 (1.1)	90 (2.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

TABLE 7.11 Schools' Reports on Percentages of Students in Schools Offering Algebra Courses for High-School Placement or Credit and Where Students Are Taught by Teachers Who Only Teach Mathematics, Grade 8

	Yes, Algebra Course Offered for High School Placement or Credit		Yes, Students Taught by Teachers Who Only Teach Mathematics	
	Percentage of Students	**Average Proficiency**	**Percentage of Students**	**Average Proficiency**
Nation	77 (3.4)	270 (1.2)	83 (2.3)	268 (1.1)
Region				
Northeast	74 (4.3)	274 (3.3)	83 (4.8)	269 (3.1)
Southeast	72 (5.6)	262 (1.5)	85 (3.4)	262 (1.7)
Central	80 (4.2)	276 (2.5)	81 (5.2)	274 (2.4)
West	80 (9.5)	269 (2.7)	84 (4.3)	267 (2.5)
Community Type				
Advan. Urban	86 (6.6)	289 (4.4)	83 (6.0)	289 (4.4)
Disadvan. Urban	71 (9.4)	241 (3.7)	90 (6.1)	238 (3.2)
Extreme Rural	30 (9.3)	267 (8.4)	75 (8.2)	265 (3.8)
Other	82 (3.5)	270 (1.3)	84 (2.6)	269 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

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TABLE 7.12 Schools' Reports on Percentages of Students in Schools Offering Algebra Courses for High School Placement or Credit and Where Students Are Taught by Teachers Who Only Teach Mathematics

PUBLIC SCHOOLS	Grade 8 - 1992				Grade 8 - 1990			
	Yes, Algebra Course Offered for High School Placement or Credit		Yes, Students Taught by Teachers Who Only Teach Mathematics		Yes, Algebra Course Offered for High School Placement or Credit		Yes, Students Taught by Teachers Who Only Teach Mathematics	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	79 (3.8)	269 (1.2)	89 (2.3)	267 (1.1)	78 (4.6)	265 (1.9)	91 (3.3)	263 (1.7)
Northeast	78 (5.0)	273 (3.3)	93 (4.6)	267 (2.9)	90 (7.3)	274 (3.2)	100 (0.0)	271 (3.3)
Southeast	72 (6.5)	259 (1.5)	89 (3.2)	259 (1.5)	60(10.9)	261 (4.6)	77(10.6)	257 (3.8)
Central	87 (4.7)	275 (2.6)	88 (4.9)	274 (2.5)	69(15.4)	263 (4.2)!	87 (7.8)	264 (2.7)
West	80(10.0)	268 (2.8)	87 (4.9)	267 (2.5)	92 (4.7)	262 (2.8)	98 (1.6)	261 (2.7)
STATES								
Alabama	70 (4.4)	253 (2.0)	89 (3.6)	252 (1.8)	65 (4.4)	254 (1.6)	90 (3.0)	254 (1.3)
Arizona	85 (2.7)	264 (1.4)	88 (3.1)	266 (1.4) >	87 (3.1)	260 (1.5)	84 (3.3)	260 (1.5)
Arkansas	63 (4.1) >	256 (1.4)	94 (2.4)	256 (1.2)	50 (4.2)	257 (1.3)	89 (3.2)	257 (1.0)
California	93 (2.1)	260 (1.7)	86 (4.1)	259 (1.9)	91 (1.6)	258 (1.4)	85 (3.6)	257 (1.6)
Colorado	89 (2.8)	271 (1.1) >	82 (3.2)	272 (1.2)	82 (3.3)	266 (1.0)	84 (3.3)	268 (1.1)
Connecticut	91 (2.8)	275 (1.4)	92 (2.8)	273 (1.3) >	92 (2.5)	271 (1.2)	95 (2.3)	270 (1.1)
Delaware	98 (0.1)	262 (1.0)	99 (0.0)	262 (1.0)	98 (0.1)	262 (1.0)	100 (0.0)	261 (1.0)
Dist. Columbia	74 (0.5) «	233 (1.0)	93 (0.2) «	231 (0.9)	86 (0.3)	233 (1.0)	96 (0.1)	232 (0.9)
Florida	89 (3.0)	261 (1.5)	100 (0.4) >	259 (1.5)	84 (3.8)	256 (1.6)	95 (2.3)	255 (1.5)
Georgia	75 (4.9)	262 (1.5)	74 (4.5)	260 (1.4)	81 (4.3)	261 (1.6)	81 (4.2)	259 (1.7)
Hawaii	82 (0.3) »	259 (0.9) »	94 (0.1) »	257 (0.9) >	76 (0.2)	254 (1.0)	90 (0.2)	252 (0.9)
Idaho	61 (3.7) <	276 (1.0) >	79 (3.5)	275 (0.8) >	69 (1.1)	272 (0.9)	86 (1.8)	272 (0.9)
Indiana	82 (4.3)	272 (1.3)	94 (2.3)	269 (1.2)	85 (4.0)	268 (1.5)	93 (2.5)	267 (1.3)
Iowa	63 (4.8)	283 (1.4)	95 (2.2)	283 (1.1) >	54 (4.1)	279 (1.5)	89 (2.8)	278 (1.3)
Kentucky	69 (4.6)	263 (1.5)	87 (3.2)	263 (1.3) >	60 (4.9)	259 (1.4)	83 (3.8)	257 (1.4)
Louisiana	65 (4.4)	251 (2.2)	89 (3.5)	249 (1.8)	72 (4.4)	248 (1.7)	80 (3.6)	248 (1.5)
Maine	75 (4.7)	278 (1.2)	77 (4.3)	279 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	87 (3.8)	266 (1.5)	100 (0.0)	264 (1.3)	92 (2.1)	262 (1.6)	100 (0.0)	261 (1.5)
Massachusetts	88 (3.8)	275 (1.2)	95 (2.5)	273 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	73 (4.1)	272 (1.8)	84 (2.9)	266 (1.6)	73 (4.3)	269 (1.2)	87 (3.6)	264 (1.4)
Minnesota	70 (4.8)	282 (1.2) »	90 (2.6)	282 (1.0) »	80 (4.1)	275 (1.1)	84 (3.5)	276 (1.1)
Mississippi	59 (4.3)	250 (1.8)	96 (1.9)	245 (1.3)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	35 (5.1)	273 (1.2)	94 (2.2)	271 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	67 (4.4)	275 (1.3)	80 (3.8)	277 (1.2)	58 (3.0)	274 (1.3)	82 (3.0)	275 (1.0)
New Hampshire	82 (3.1)	278 (1.1) >	88 (3.2)	278 (1.0) >	82 (1.0)	274 (1.0)	93 (0.6)	274 (1.0)
New Jersey	83 (4.1)	277 (1.7)	80 (4.2)	274 (1.9)	79 (3.6)	274 (1.5)	81 (3.4)	275 (1.5)
New Mexico	72 (3.8) >	259 (1.1)	92 (2.3)	259 (1.0)	60 (1.0)	258 (0.9)	88 (0.9)	257 (0.8)
New York	89 (3.1)	268 (2.3)	98 (1.4)	265 (2.2)	86 (3.6)	263 (1.7)	97 (2.0)	262 (1.6)
North Carolina	89 (3.0)	259 (1.3) »	69 (4.2)	260 (1.2) »	85 (3.5)	251 (1.2)	71 (3.7)	251 (1.3)
North Dakota	53 (3.7)	283 (1.0)	76 (3.5) >	282 (1.0)	48 (2.6)	281 (1.4)	65 (2.9)	279 (1.3)
Ohio	80 (5.8)	269 (1.9)	90 (3.2)	267 (1.7)	81 (4.0)	264 (1.3)	90 (3.0)	264 (1.2)
Oklahoma	60 (5.7)	267 (1.2)	88 (2.5)	268 (1.2)	64 (4.2)	267 (1.4)	87 (3.2)	264 (1.4)
Pennsylvania	91 (2.9)	272 (1.7)	92 (2.8)	272 (1.7)	88 (3.6)	270 (1.7)	94 (2.1)	267 (1.8)
Rhode Island	92 (0.1)	268 (0.8) »	95 (0.1) «	266 (0.8) »	90 (1.6)	261 (0.6)	96 (0.1)	260 (0.6)
South Carolina	96 (1.4)	261 (1.0)	95 (2.3)	260 (1.1)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	61 (5.1)	260 (1.9)	80 (3.8)	258 (1.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	84 (3.7)	265 (1.6) >	99 (0.6) >	264 (1.3) >	85 (3.4)	258 (1.6)	92 (2.7)	258 (1.5)
Utah	78 (3.4)	275 (0.9)	89 (2.6)	275 (0.8)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	99 (0.8)	268 (1.2)	92 (2.5)	268 (1.3)	97 (1.7)	265 (1.6)	94 (1.6)	266 (1.7)
West Virginia	86 (3.6)	258 (1.1)	95 (1.9) >	258 (1.1)	75 (4.7)	257 (1.0)	88 (3.1)	256 (1.1)
Wisconsin	74 (4.7)	279 (1.4)	81 (5.3)	276 (1.6)	63 (4.6)	276 (1.5)	81 (3.1)	273 (1.5)
Wyoming	74 (3.0)	275 (0.9) >	93 (2.1) >	274 (1.0)	72 (0.7)	271 (0.9)	87 (1.6)	272 (0.7)
TERRITORIES								
Guam	66 (0.2) »	234 (1.2)	100 (0.0)	234 (1.2)	62 (0.2)	233 (0.9)	85 (0.2)	231 (0.9)
Virgin Islands	80 (0.1) «	223 (1.3) >	81 (0.1)	223 (1.1)	85 (0.1)	220 (0.9)	81 (0.2)	221 (0.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. » The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.
! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 7.13 High School Seniors' Reports on Currently Taking a Mathematics Course

	Are You Taking a Mathematics Class this Year?			
	Yes		No	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
1990	63 (1.2)	306 (1.0)	37 (1.2)	286 (1.1)>
1992	59 (2.0)	304 (1.3)	41 (2.0)	281 (1.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies are presented in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and grater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

CHAPTER EIGHT

Instructional Time and Emphases for the Nation and the States

Overview

This chapter presents student achievement for the nation and the states in terms of students' reports and the reports of their teachers on mathematics instruction. Background questionnaire results are included for the quantity of mathematics instruction, including homework, that students receive, as well as the specific mathematics content areas that teachers emphasize for grades 4 and 8. Taken together with the course-taking information presented for high-school students in Chapter Seven, this information provides a broad view of students' mathematical curriculum as they progress through school.

Overall School Support and Emphasis on Mathematics

TABLE 8.1 Schools' Reports on the Identification of Mathematics as a Priority, Grades 4 and 8

	Assessment Years	Yes, Reading is a Special Priority	Yes, Writing is a Special Priority	Yes, Mathematics is a Special Priority	
		Percentage of Students	Percentage of Students	Percentage of Students	Average Proficiency
Grade 4	**1992**	83 (2.9)<	74 (3.2)	73 (3.1)	218 (1.1)>
	1990	93 (2.6)	76 (3.4)	78 (4.1)	212 (1.2)
Grade 8	**1992**	64 (3.1)<	66 (3.4)	67 (3.3)	266 (1.2)
	1990	77 (5.1)	70 (5.0)	64 (5.4)	262 (2.1)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

TABLE 8.2 | Schools' Reports on the Identification of Mathematics as a Priority

PUBLIC SCHOOLS	Grade 4 - 1992, Yes, Mathematics Is A Special Priority	
	Percentage of Students	Average Proficiency
NATION	74 (3.4)	217 (1.2)
Northeast	81 (7.1)	221 (2.5)
Southeast	70 (7.6)	209 (2.6)
Central	78 (6.1)	222 (2.7)
West	69 (6.4)	215 (2.0)
STATES		
Alabama	78 (3.8)	206 (1.8)
Arizona	80 (3.6)	214 (1.4)
Arkansas	66 (4.3)	207 (1.4)
California	67 (5.2)	206 (2.0)
Colorado	67 (4.9)	220 (1.3)
Connecticut	81 (4.1)	226 (1.5)
Delaware	74 (0.2)	218 (1.1)
Dist. Columbia	95 (0.2)	191 (0.6)
Florida	76 (5.2)	212 (1.6)
Georgia	77 (4.0)	214 (1.7)
Hawaii	82 (4.0)	213 (1.5)
Idaho	72 (4.3)	221 (1.2)
Indiana	73 (4.8)	219 (1.3)
Iowa	59 (4.5)	229 (1.6)
Kentucky	66 (5.6)	213 (1.3)
Louisiana	86 (2.9)	203 (1.7)
Maine	70 (5.0)	231 (1.3)
Maryland	92 (2.7)	216 (1.4)
Massachusetts	77 (4.0)	225 (1.3)
Michigan	83 (3.8)	217 (1.8)
Minnesota	72 (4.5)	227 (1.4)
Mississippi	92 (2.4)	199 (1.2)
Missouri	56 (5.5)	220 (2.0)
Nebraska	50 (5.0)	223 (1.9)
New Hampshire	76 (4.2)	230 (1.4)
New Jersey	95 (2.5)	225 (1.6)
New Mexico	57 (5.6)	211 (1.8)
New York	73 (5.0)	216 (1.9)
North Carolina	80 (4.1)	211 (1.4)
North Dakota	57 (5.1)	228 (1.2)
Ohio	86 (3.3)	218 (1.3)
Oklahoma	78 (4.2)	220 (1.2)
Pennsylvania	71 (4.6)	221 (1.5)
Rhode Island	64 (4.2)	211 (2.1)
South Carolina	89 (3.7)	210 (1.3)
Tennessee	76 (4.9)	208 (1.7)
Texas	79 (4.8)	215 (1.4)
Utah	74 (4.7)	222 (1.1)
Virginia	78 (3.7)	219 (1.7)
West Virginia	85 (3.2)	214 (1.2)
Wisconsin	67 (4.9)	227 (1.7)
Wyoming	69 (4.2)	224 (1.2)
TERRITORY		
Guam	94 (0.1)	191 (0.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 8.2 | Schools' Reports on the Identification of Mathematics as a Priority (continued)

PUBLIC SCHOOLS	Grade 8 - 1992, Yes, Mathematics Is A Special Priority		Grade 8 - 1990, Yes, Mathematics Is A Special Priority	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	68 (3.7)	264 (1.3)	63 (5.9)	260 (2.3)
Northeast	80 (8.4)	263 (2.9)	45(16.5)	267 (9.5)!
Southeast	71 (7.8)	255 (1.7)	70(10.6)	253 (3.9)
Central	65 (7.6)	270 (2.9)	79(13.8)	261 (2.3)!
West	59 (6.9)	267 (3.2)	61 (8.6)	263 (3.3)
STATES				
Alabama	73 (4.9)	252 (1.9)	60 (4.9)	252 (1.9)
Arizona	69 (4.7)	264 (1.8)	64 (3.9)	260 (1.7)
Arkansas	65 (4.6)	254 (1.5)	59 (4.2)	256 (1.3)
California	62 (4.3)	257 (2.2)	69 (4.4)	255 (1.8)
Colorado	47 (4.6)	268 (1.5)	45 (3.9)	264 (1.6)
Connecticut	77 (4.3)	270 (1.7)	74 (4.4)	265 (1.5)
Delaware	68 (0.2)»	259 (1.2)	55 (0.3)	261 (1.1)
Dist. Columbia	100 (0.0)	231 (0.9)	83 (0.3)	229 (0.9)
Florida	66 (4.6)	258 (2.0)	74 (4.9)	254 (1.5)
Georgia	69 (5.1)	257 (1.3)	77 (4.3)	259 (1.8)
Hawaii	75 (0.2)»	254 (1.0) >	72 (0.3)	251 (0.9)
Idaho	59 (4.7)	274 (1.1)	67 (1.3)	272 (1.0)
Indiana	46 (4.8)	269 (1.9)	44 (5.4)	264 (1.9)
Iowa	42 (5.4)	283 (1.7) >	41 (4.7)	275 (1.9)
Kentucky	54 (5.3)	262 (1.7)	62 (5.0)	257 (1.6)
Louisiana	74 (4.6)	247 (2.2)	79 (4.6)	244 (1.5)
Maine	50 (5.2)	278 (1.3)	xxx (xxx)	xxx (xxx)
Maryland	85 (4.0)	264 (1.7)	78 (4.4)	261 (2.0)
Massachusetts	56 (5.2)	274 (1.9)	xxx (xxx)	xxx (xxx)
Michigan	78 (4.8)	264 (1.9)	67 (4.8)	262 (1.4)
Minnesota	43 (5.7)	280 (1.5) >	52 (4.8)	274 (1.3)
Mississippi	77 (3.8)	244 (1.5)	xxx (xxx)	xxx (xxx)
Missouri	44 (5.4)	268 (2.1)	xxx (xxx)	xxx (xxx)
Nebraska	26 (4.6) <	273 (2.4)	40 (2.5)	271 (1.5)
New Hampshire	61 (4.1)»	277 (1.2)	38 (0.7)	276 (1.2)
New Jersey	84 (4.7)	269 (2.0)	83 (3.9)	268 (1.5)
New Mexico	50 (4.6) <	256 (1.5)	61 (1.2)	257 (0.9)
New York	66 (4.4)	258 (3.6)	74 (4.9)	257 (2.2)
North Carolina	67 (5.0)	255 (1.5) >	71 (4.6)	250 (1.5)
North Dakota	38 (4.4)	282 (1.7)	43 (3.2)	281 (1.9)
Ohio	80 (4.8) >	266 (2.0)	66 (4.7)	263 (1.5)
Oklahoma	51 (4.8)	265 (2.0)	59 (4.8)	262 (1.9)
Pennsylvania	64 (4.7)	271 (1.7)	74 (4.5)	265 (2.2)
Rhode Island	73 (0.2)»	267 (0.9)»	47 (1.0)	259 (0.7)
South Carolina	83 (4.2)	261 (1.3)	xxx (xxx)	xxx (xxx)
Tennessee	69 (5.3)	254 (1.6)	xxx (xxx)	xxx (xxx)
Texas	86 (3.8)	262 (1.4) >	77 (4.7)	257 (1.8)
Utah	64 (4.1)	274 (1.0)	xxx (xxx)	xxx (xxx)
Virginia	77 (4.7)	265 (1.5)	74 (4.5)	263 (2.2)
West Virginia	63 (4.8)	258 (1.1)	72 (4.7)	257 (1.2)
Wisconsin	59 (5.4)	277 (2.5)	45 (5.4)	272 (2.1)
Wyoming	51 (3.3) >	273 (1.3)	43 (0.8)	273 (1.1)
TERRITORIES				
Guam	66 (0.2)	234 (1.2)	100 (0.0)	232 (0.8)
Virgin Islands	100 (0.0)	222 (1.1)»	52 (0.2)	215 (1.3)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 8.3 Teachers' Reports on the Amount of Time Spent on Mathematics Instruction Each Week, Grades 4 and 8

	Two and One-Half Hours or Less Each Week		More than Two and One-Half Hours, but Less than Four Hours Each Week		Four Hours or More Each Week	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4						
Nation	5 (0.8)	223 (3.3)	24 (1.8)	223 (2.0)	71 (2.1)	216 (1.1)
White	5 (1.1)	228 (3.3)	27 (2.1)	229 (1.7)	68 (2.4)	225 (1.1)
Black	3 (1.0)	199 (8.1)	14 (2.4)	195 (3.1)	83 (2.6)	192 (1.8)
Hispanic	4 (1.0)	204 (6.7)	24 (2.9)	201 (3.8)	72 (3.2)	200 (1.6)
Asian/Pacific Islander	2 (1.6)	250(35.6)	20 (6.3)	238 (8.2)	77 (6.7)	231 (3.4)
American Indian	7 (3.7)	202(23.0)	26 (5.2)	213 (4.3)	68 (5.0)	207 (4.8)
Male	5 (0.8)	221 (4.3)	25 (2.0)	224 (2.4)	71 (2.3)	218 (1.2)
Female	5 (0.9)	225 (3.7)	24 (1.8)	222 (2.2)	71 (2.1)	215 (1.3)
Grade 8						
Nation	13 (1.9)	269 (3.7)	55 (2.6)	270 (1.5)	32 (2.8)	267 (2.0)
White	13 (2.3)	279 (4.0)	58 (3.0)	277 (1.4)	30 (3.4)	278 (2.0)
Black	14 (2.4)	238 (5.6)	49 (3.9)	238 (2.0)	38 (4.2)	238 (2.1)
Hispanic	12 (2.0)	244 (3.0)	52 (3.3)	249 (1.9)	36 (3.3)	245 (2.7)
Asian/Pacific Islander	15 (3.9)	279 (9.8)	52 (5.8)	293 (4.6)	34 (5.9)	287(11.8)
American Indian	15 (7.2)	241 (8.7)	52 (5.6)	254 (4.7)	34 (7.7)	261 (5.1)
Male	12 (1.9)	271 (4.8)	57 (2.6)	269 (1.7)	31 (2.8)	266 (2.2)
Female	13 (2.0)	267 (4.0)	54 (2.8)	270 (1.6)	33 (2.9)	268 (2.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). The percentages may not total 100 percent due to rounding error.

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TABLE 8.4 | Teachers' Reports on the Amount of Time Spent on Mathematics Instruction Each Week

PUBLIC SCHOOLS	Grade 4 - 1992					
	Two and One-Half Hours or Less Each Week		More than Two and One-Half Hours, but Less than Four Hours Each Week		Four Hours or More Each Week	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	5 (1.0)	223 (3.8)!	21 (2.1)	221 (2.7)	74 (2.5)	216 (1.1)
Northeast	6 (2.8)	*** (***)	21 (5.6)	218 (3.7)!	73 (6.8)	221 (3.7)
Southeast	4 (1.2)	210 (6.0)!	8 (2.2)	203 (3.5)!	88 (2.7)	208 (2.2)
Central	4 (1.6)	*** (***)	34 (5.0)	222 (4.0)	63 (5.4)	225 (1.8)
West	5 (2.2)	*** (***)	24 (3.6)	227 (5.8)	71 (4.9)	213 (1.7)
STATES						
Alabama	8 (1.9)	200 (3.9)!	7 (1.3)	209 (5.1)	85 (2.3)	208 (1.7)
Arizona	5 (1.2)	216 (6.3)!	27 (2.6)	212 (2.5)	68 (2.8)	215 (1.2)
Arkansas	6 (1.7)	206 (5.1)!	30 (3.7)	208 (1.9)	64 (3.5)	210 (1.3)
California	3 (1.2)	190 (7.6)!	26 (3.9)	211 (3.3)	70 (3.9)	207 (2.1)
Colorado	7 (1.7)	217 (4.1)!	30 (3.2)	223 (1.9)	63 (3.8)	219 (1.5)
Connecticut	1 (0.5)	*** (***)	19 (3.0)	231 (2.6)	80 (3.0)	227 (1.4)
Delaware	7 (0.4)	227 (4.3)	33 (0.7)	215 (1.2)	61 (0.8)	218 (1.1)
Dist. Columbia	9 (0.4)	198 (2.9)	16 (1.0)	189 (2.7)	75 (1.1)	190 (1.0)
Florida	3 (1.0)	211 (4.9)!	21 (2.7)	215 (2.0)	75 (2.8)	212 (1.6)
Georgia	4 (1.1)	215 (6.0)!	10 (1.6)	217 (3.0)	86 (1.8)	213 (1.5)
Hawaii	6 (1.3)	213 (4.8)!	38 (2.8)	213 (2.0)	55 (3.1)	213 (1.7)
Idaho	5 (1.4)	216 (3.1)!	27 (3.5)	221 (1.7)	68 (3.4)	220 (1.2)
Indiana	3 (1.0)	231 (5.6)!	39 (3.7)	218 (1.9)	58 (3.7)	220 (1.4)
Iowa	6 (2.1)	223 (4.2)!	38 (3.7)	229 (1.6)	56 (4.0)	230 (1.4)
Kentucky	7 (1.8)	211 (5.1)!	12 (2.6)	212 (2.3)!	81 (2.8)	214 (1.3)
Louisiana	7 (1.4)	194 (4.8)!	10 (2.6)	202 (7.8)!	84 (2.9)	204 (1.5)
Maine	4 (1.3)	236 (3.3)!	39 (4.3)	230 (1.9)	57 (4.1)	231 (1.4)
Maryland	4 (1.4)	233 (8.2)!	11 (2.4)	219 (9.6)!	85 (2.8)	217 (1.5)
Massachusetts	2 (0.9)	221 (6.4)!	35 (3.9)	224 (2.0)	63 (4.0)	228 (1.5)
Michigan	5 (1.4)	222 (6.8)!	29 (3.4)	224 (3.0)	66 (3.4)	217 (2.0)
Minnesota	7 (1.7)	229 (3.5)!	31 (3.8)	228 (1.6)	63 (3.8)	226 (1.7)
Mississippi	10 (2.2)	194 (3.3)!	14 (2.6)	203 (4.1)	76 (3.2)	200 (1.4)
Missouri	5 (1.4)	223 (3.8)!	18 (3.2)	221 (3.0)	77 (3.1)	222 (1.6)
Nebraska	8 (2.3)	219 (3.2)!	37 (4.0)	225 (2.1)	55 (3.3)	226 (1.7)
New Hampshire	4 (1.2)	233 (5.6)!	37 (4.1)	225 (1.8)	60 (4.1)	231 (1.4)
New Jersey	3 (1.4)	*** (***)	29 (4.4)	231 (2.4)	69 (4.6)	226 (2.0)
New Mexico	4 (1.1)	207 (4.5)!	20 (3.0)	211 (2.4)	76 (3.3)	213 (1.5)
New York	6 (1.4)	214 (6.8)!	27 (3.4)	226 (2.2)	67 (3.8)	214 (1.8)
North Carolina	8 (1.4)	220 (4.3)	32 (3.1)	213 (1.7)	60 (3.2)	211 (1.6)
North Dakota	6 (1.8)	224 (3.3)!	37 (4.7)	227 (1.3)	56 (4.8)	229 (1.1)
Ohio	2 (0.8)	*** (***)	34 (4.2)	221 (2.1)	64 (4.2)	216 (1.9)
Oklahoma	8 (1.6)	219 (3.2)!	34 (3.9)	219 (1.6)	58 (4.3)	220 (1.3)
Pennsylvania	4 (1.2)	224 (5.6)!	30 (3.3)	219 (3.1)	67 (3.4)	225 (1.7)
Rhode Island	3 (1.1)	*** (***)	24 (3.3)	217 (3.1)	74 (3.6)	213 (1.8)
South Carolina	4 (1.7)	205 (3.6)!	15 (2.6)	215 (3.4)	81 (3.2)	211 (1.3)
Tennessee	4 (1.3)	210 (5.8)!	17 (2.0)	207 (2.3)	79 (2.3)	210 (1.5)
Texas	4 (1.0)	214 (4.6)!	12 (2.4)	217 (4.2)	83 (2.6)	218 (1.6)
Utah	6 (1.4)	218 (4.3)!	23 (2.9)	220 (1.8)	70 (3.1)	224 (1.1)
Virginia	3 (1.0)	218 (5.1)!	17 (2.9)	215 (3.5)	79 (3.2)	221 (1.5)
West Virginia	4 (1.5)	214 (6.2)!	9 (1.9)	217 (2.0)!	87 (2.5)	213 (1.3)
Wisconsin	2 (0.9)	*** (***)	27 (3.2)	228 (1.9)	71 (3.0)	229 (1.3)
Wyoming	3 (1.2)	228 (5.2)!	22 (3.4)	223 (2.1)	75 (3.4)	225 (1.3)
TERRITORY						
Guam	9 (0.5)	195 (2.0)	20 (1.1)	189 (1.8)	71 (1.1)	192 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 8.4 | Teachers' Reports on the Amount of Time Spent on Mathematics Instruction Each Week (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Two and One-Half Hours or Less Each Week		More than Two and One-Half Hours, but Less than Four Hours Each Week		Four Hours or More Each Week	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	13 (2.2)	269 (3.9)	55 (2.7)	268 (1.5)	32 (3.1)	266 (2.3)
Northeast	7 (3.6)	*** (***)	58 (5.3)	266 (3.3)	35 (7.9)	271 (5.1)!
Southeast	10 (3.1)	262 (4.5)!	52 (5.5)	265 (1.7)	37 (4.1)	256 (2.8)
Central	14 (3.7)	272 (5.2)!	62 (8.6)	275 (3.0)	24 (7.6)	277 (5.2)!
West	19 (5.6)	271 (6.7)!	51 (1.9)	267 (3.3)	30 (5.4)	266 (3.2)
STATES						
Alabama	6 (2.1)	244 (19.3)!	34 (3.7)	247 (2.2)	60 (3.6)	255 (1.9)
Arizona	13 (2.2)	258 (3.0)	53 (3.7)	266 (1.6)	34 (3.3)	264 (2.5)
Arkansas	13 (2.7)	257 (4.9)!	45 (3.9)	257 (1.5)	42 (4.1)	254 (2.0)
California	12 (2.1)	253 (3.7)	46 (3.4)	260 (2.4)	43 (3.2)	264 (2.5)
Colorado	18 (2.3)	272 (2.6)	55 (3.4)	272 (1.5)	27 (2.8)	269 (2.3)
Connecticut	6 (1.5)	266 (6.8)!	74 (3.0)	273 (1.4)	21 (2.9)	278 (3.9)
Delaware	4 (0.4)	254 (5.1)	66 (0.9)	264 (1.2)	30 (0.9)	259 (1.8)
Dist. Columbia	9 (0.8)	241 (3.5)	39 (1.1)	229 (1.7)	52 (1.1)	237 (1.4)
Florida	10 (1.7)	253 (4.6)	50 (3.2)	259 (1.6)	40 (3.2)	262 (2.3)
Georgia	7 (1.3)	252 (3.6)	37 (3.4)	256 (1.9)	56 (3.7)	260 (1.8)
Hawaii	10 (0.6)	247 (2.5)	56 (1.0)	257 (1.1)	34 (1.0)	261 (1.5)
Idaho	18 (2.5)	276 (2.3)	55 (3.0)	277 (1.5)	28 (2.6)	269 (1.6)
Indiana	12 (3.5)	268 (3.4)!	56 (4.2)	269 (1.8)	32 (3.4)	271 (1.7)
Iowa	21 (4.2)	281 (2.5)!	59 (4.8)	283 (1.3)	20 (3.3)	285 (2.6)
Kentucky	9 (1.8)	266 (5.1)!	44 (3.8)	259 (1.8)	47 (3.8)	264 (1.5)
Louisiana	10 (2.0)	251 (6.1)!	37 (4.0)	249 (2.5)	54 (4.3)	250 (2.3)
Maine	17 (2.8)	280 (3.3)	71 (3.7)	278 (1.3)	12 (2.8)	275 (4.7)!
Maryland	10 (2.1)	258 (5.9)!	44 (3.8)	266 (2.3)	45 (3.7)	267 (2.3)
Massachusetts	11 (2.1)	271 (4.1)	61 (3.1)	272 (1.6)	28 (3.0)	273 (2.9)
Michigan	14 (2.3)	266 (4.9)	48 (3.7)	270 (2.6)	39 (3.6)	263 (2.5)
Minnesota	18 (3.0)	277 (2.3)	41 (3.9)	281 (2.0)	41 (3.5)	284 (1.7)
Mississippi	6 (2.3)	254 (5.6)!	34 (4.1)	246 (2.2)	60 (4.2)	245 (1.8)
Missouri	14 (2.6)	267 (2.6)	42 (3.8)	272 (1.7)	44 (4.2)	271 (1.4)
Nebraska	11 (2.6)	279 (4.2)!	64 (4.2)	275 (1.4)	25 (3.5)	282 (2.5)
New Hampshire	7 (1.2)	280 (4.0)	55 (3.6)	277 (1.4)	38 (3.6)	278 (1.7)
New Jersey	6 (1.8)	272 (5.6)!	65 (3.9)	277 (2.3)	28 (3.8)	259 (3.8)
New Mexico	20 (2.6)	254 (2.5)	55 (3.0)	260 (1.4)	26 (2.9)	261 (1.5)
New York	8 (1.7)	258 (8.1)!	71 (3.7)	272 (2.1)	20 (3.1)	250 (5.6)
North Carolina	6 (1.3)	253 (4.4)!	42 (3.7)	257 (2.1)	52 (3.5)	258 (1.8)
North Dakota	19 (3.1)	285 (1.9)	37 (4.0)	282 (2.0)	44 (4.9)	282 (1.6)
Ohio	9 (1.8)	270 (4.1)	65 (5.1)	268 (1.5)	26 (4.8)	271 (4.4)
Oklahoma	17 (2.6)	270 (2.8)	46 (3.5)	267 (1.7)	37 (3.4)	267 (2.7)
Pennsylvania	8 (2.0)	267 (3.8)!	68 (3.2)	271 (1.9)	24 (2.9)	271 (2.7)
Rhode Island	8 (0.4)	246 (2.6)	49 (1.0)	266 (1.1)	43 (0.9)	267 (1.5)
South Carolina	8 (1.7)	253 (5.4)!	33 (2.8)	260 (2.4)	59 (2.9)	262 (1.6)
Tennessee	8 (1.9)	248 (5.1)!	32 (3.6)	261 (2.4)	60 (3.9)	258 (2.0)
Texas	10 (2.2)	265 (3.4)!	52 (3.6)	263 (2.0)	38 (3.4)	266 (2.5)
Utah	19 (2.0)	272 (2.4)	53 (2.2)	275 (1.3)	28 (1.9)	272 (1.3)
Virginia	12 (2.3)	262 (3.7)	50 (3.1)	269 (1.5)	38 (2.9)	267 (1.7)
West Virginia	10 (2.4)	258 (3.1)!	50 (4.2)	257 (1.4)	40 (3.8)	261 (1.7)
Wisconsin	10 (2.5)	280 (5.7)!	59 (5.1)	278 (2.4)	32 (4.6)	278 (1.8)
Wyoming	17 (2.5)	276 (1.7)	59 (3.4)	276 (1.2)	24 (3.2)	269 (1.8)
TERRITORIES						
Guam	4 (0.3)	*** (***)	68 (0.9)	233 (1.5)	28 (0.9)	237 (1.8)
Virgin Islands	27 (0.8)	218 (2.4)	42 (1.2)	218 (1.7)	31 (0.9)	228 (1.4)

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TABLE 8.5 Teachers' Reports on the Amount of Mathematics Homework Assigned Each Day, Grades 4 and 8

	Assessment Years	Grade 4		Grade 8	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
None	1992	6 (1.3)	221 (2.4)	3 (0.7)	238 (5.1)
	1990	5 (0.9)	211 (3.4)	1 (0.3)	238 (8.3)
15 Minutes	1992	52 (1.8)	220 (1.3)	28 (2.0)<	263 (1.7)
	1990	49 (3.1)	217 (1.7)	41 (3.8)	257 (2.3)
30 Minutes	1992	37 (2.3)	217 (1.6)	49 (2.5)	268 (1.4)
	1990	37 (3.3)	214 (2.0)	43 (3.9)	266 (2.5)
45 Minutes	1992	4 (0.9)	201 (4.8)	16 (1.9)	282 (3.4)
	1990	4 (1.1)	205 (6.0)	11 (1.8)	272 (4.8)
An Hour or More	1992	1 (0.4)	206(11.6)	4 (0.8)	287 (5.0)
	1990	4 (1.2)	201 (8.6)	5 (0.9)	276 (5.7)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 8.6 | Teachers' Reports on the Amount of Mathematics Homework Assigned Each Day

PUBLIC SCHOOLS	Grade 4 - 1992									
	None		15 Minutes		30 Minutes		45 Minutes		An Hour or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	6 (1.4)	220 (2.7)!	53 (2.1)	220 (1.5)	36 (2.6)	215 (1.8)	4 (0.9)	200 (4.7)!	1 (0.4)	*** (***)
Northeast	2 (2.0)	*** (***)	50 (6.2)	224 (4.7)	44 (5.7)	220 (3.1)	3 (1.4)	*** (***)	1 (1.1)	*** (***)
Southeast	4 (1.1)	*** (***)	41 (3.0)	208 (2.8)	50 (3.5)	208 (2.8)	3 (1.2)	*** (***)	1 (0.9)	*** (***)
Central	13 (4.4)	226 (3.9)!	53 (3.8)	224 (2.2)	28 (7.0)	224 (4.2)!	4 (1.9)	*** (***)	1 (0.9)	*** (***)
West	5 (2.5)	*** (***)	65 (3.6)	222 (2.6)	24 (3.3)	210 (4.2)	4 (2.4)	199 (4.4)!	1 (0.9)	*** (***)
STATES										
Alabama	1 (0.3)	*** (***)	37 (3.6)	207 (2.3)	54 (3.5)	209 (2.0)	5 (1.6)	205 (4.2)!	3 (1.0)	197 (6.5)!
Arizona	8 (1.6)	211 (4.3)!	60 (2.8)	216 (1.4)	28 (2.5)	210 (2.1)	3 (1.3)	209 (8.6)!	1 (0.5)	*** (***)
Arkansas	9 (2.0)	213 (3.4)!	54 (3.3)	209 (1.3)	33 (3.3)	209 (1.5)	4 (1.6)	210 (5.0)!	0 (0.0)	*** (***)
California	4 (1.2)	206 (6.3)!	46 (3.5)	212 (2.2)	42 (2.8)	205 (2.6)	6 (1.7)	201 (4.7)!	2 (0.8)	*** (***)
Colorado	11 (1.7)	219 (2.7)	53 (3.0)	222 (1.5)	30 (2.7)	219 (2.1)	5 (1.2)	207 (3.2)!	1 (0.5)	*** (***)
Connecticut	6 (2.4)	231 (3.6)!	51 (4.0)	231 (1.4)	36 (3.1)	226 (2.6)	6 (1.5)	215 (7.1)!	2 (1.1)	*** (***)
Delaware	3 (0.4)	*** (***)	55 (1.2)	216 (1.2)	41 (1.1)	219 (1.7)	0 (0.0)	*** (***)	1 (0.2)	*** (***)
Dist. Columbia	0 (0.0)	*** (***)	17 (0.9)	190 (1.8)	60 (1.2)	194 (1.2)	18 (0.8)	184 (2.2)	5 (0.4)	187 (3.1)
Florida	2 (0.8)	*** (***)	41 (3.1)	214 (1.8)	47 (3.4)	212 (1.8)	7 (1.6)	209 (3.7)!	3 (0.9)	*** (***)
Georgia	1 (0.4)	*** (***)	47 (3.4)	216 (2.1)	46 (3.3)	212 (2.2)	5 (1.3)	204 (5.4)!	2 (0.6)	*** (***)
Hawaii	1 (0.4)	*** (***)	24 (2.4)	209 (2.7)	60 (3.0)	216 (1.6)	12 (2.1)	210 (2.7)	4 (1.2)	206 (5.3)!
Idaho	24 (2.4)	220 (1.4)	58 (3.6)	221 (1.3)	17 (3.0)	219 (2.1)	0 (0.4)	*** (***)	0 (0.3)	*** (***)
Indiana	8 (2.0)	219 (1.9)!	59 (3.4)	220 (1.6)	32 (3.4)	218 (2.2)	0 (0.2)	*** (***)	1 (0.6)	*** (***)
Iowa	18 (3.0)	230 (1.9)	63 (4.3)	230 (1.3)	18 (2.9)	225 (1.9)	0 (0.4)	*** (***)	0 (0.0)	*** (***)
Kentucky	8 (2.1)	210 (3.2)!	52 (3.7)	214 (1.7)	36 (3.8)	214 (1.9)	4 (1.2)	207 (6.6)!	1 (0.8)	*** (***)
Louisiana	1 (0.9)	*** (***)	44 (3.8)	207 (1.9)	47 (3.6)	203 (2.0)	7 (1.7)	181 (6.9)!	0 (0.3)	*** (***)
Maine	5 (1.7)	233 (5.8)!	62 (3.7)	230 (1.5)	31 (3.5)	231 (1.1)	2 (0.8)	*** (***)	1 (0.6)	*** (***)
Maryland	0 (0.3)	*** (***)	41 (3.5)	218 (2.2)	53 (3.5)	218 (2.0)	4 (1.1)	211 (7.5)!	1 (0.6)	*** (***)
Massachusetts	4 (1.4)	229 (5.9)!	49 (4.2)	229 (1.7)	44 (4.0)	225 (2.4)	2 (0.6)	*** (***)	1 (0.7)	*** (***)
Michigan	15 (2.0)	222 (2.5)	53 (3.6)	222 (2.3)	29 (3.3)	211 (3.8)	2 (0.8)	*** (***)	1 (0.5)	*** (***)
Minnesota	15 (2.8)	227 (3.2)	61 (3.6)	227 (1.4)	24 (2.9)	228 (2.3)	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Mississippi	2 (0.9)	*** (***)	43 (3.4)	200 (2.2)	50 (3.4)	200 (1.7)	3 (1.3)	200 (4.8)!	2 (1.1)	*** (***)
Missouri	11 (2.0)	225 (3.6)	45 (3.0)	226 (1.8)	40 (3.4)	218 (2.4)	2 (0.8)	*** (***)	2 (1.1)	*** (***)
Nebraska	21 (3.4)	226 (2.4)	49 (3.6)	223 (1.8)	28 (3.4)	227 (2.6)	0 (0.2)	*** (***)	2 (0.9)	*** (***)
New Hampshire	8 (1.7)	229 (3.9)!	61 (3.3)	229 (1.5)	29 (3.2)	230 (2.0)	1 (1.2)	*** (***)	1 (0.4)	*** (***)
New Jersey	0 (0.0)	*** (***)	44 (4.2)	232 (2.1)	52 (4.3)	224 (2.5)	3 (1.0)	222 (9.2)!	1 (0.4)	*** (***)
New Mexico	9 (2.1)	210 (3.6)!	45 (3.7)	214 (2.0)	42 (3.3)	210 (2.2)	3 (1.1)	*** (***)	1 (0.3)	*** (***)
New York	1 (0.5)	*** (***)	41 (3.5)	222 (2.1)	51 (3.6)	214 (1.9)	6 (1.5)	216 (6.0)!	2 (0.6)	*** (***)
North Carolina	2 (0.8)	*** (***)	44 (2.8)	213 (1.7)	51 (2.9)	211 (1.3)	2 (0.8)	*** (***)	1 (0.7)	*** (***)
North Dakota	10 (2.5)	230 (1.9)!	47 (4.3)	227 (1.4)	40 (3.8)	229 (1.5)	2 (1.0)	*** (***)	0 (0.5)	*** (***)
Ohio	3 (0.9)	226 (6.6)!	60 (3.5)	220 (1.5)	36 (3.3)	213 (1.8)	1 (0.8)	*** (***)	0 (0.2)	*** (***)
Oklahoma	16 (2.6)	219 (2.2)	45 (3.6)	222 (1.5)	33 (3.3)	217 (1.7)	5 (1.5)	213 (2.7)!	1 (0.8)	*** (***)
Pennsylvania	1 (0.4)	*** (***)	53 (3.6)	225 (1.7)	44 (3.6)	221 (2.2)	2 (0.8)	*** (***)	0 (0.3)	*** (***)
Rhode Island	2 (0.9)	*** (***)	52 (3.4)	214 (1.9)	41 (3.3)	214 (2.6)	3 (1.1)	217(11.0)!	1 (0.7)	*** (***)
South Carolina	1 (0.5)	*** (***)	48 (3.6)	211 (1.4)	48 (3.9)	212 (1.7)	2 (0.5)	*** (***)	2 (0.7)	*** (***)
Tennessee	6 (1.6)	208 (4.4)!	35 (3.2)	212 (2.2)	49 (3.0)	209 (1.7)	7 (1.7)	212 (3.2)!	3 (1.0)	198 (5.3)!
Texas	7 (2.3)	217 (4.3)!	52 (3.6)	220 (2.0)	35 (2.9)	217 (2.6)	4 (1.0)	198 (5.8)!	3 (0.8)	201 (7.6)!
Utah	18 (2.6)	219 (2.2)	54 (2.9)	223 (1.3)	25 (3.0)	225 (2.0)	2 (0.8)	*** (***)	0 (0.0)	*** (***)
Virginia	0 (0.4)	*** (***)	51 (2.7)	221 (1.7)	46 (2.9)	219 (2.4)	3 (0.9)	209 (5.3)!	0 (0.0)	*** (***)
West Virginia	12 (1.9)	211 (3.1)	60 (3.2)	213 (1.5)	28 (3.6)	215 (1.7)	0 (0.2)	*** (***)	0 (0.2)	*** (***)
Wisconsin	10 (2.4)	235 (2.3)!	57 (3.5)	230 (1.5)	32 (3.0)	224 (2.0)	1 (0.4)	*** (***)	0 (0.0)	*** (***)
Wyoming	23 (2.9)	223 (1.9)	58 (3.5)	225 (1.2)	17 (2.6)	225 (1.8)	2 (0.8)	*** (***)	0 (0.0)	*** (***)
TERRITORY										
Guam	1 (0.1)	*** (***)	28 (1.1)	187 (1.6)	56 (1.0)	193 (1.2)	9 (0.5)	195 (2.5)	6 (0.7)	195 (3.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 8.6 | Teachers' Reports on the Amount of Mathematics Homework Assigned Each Day (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	None		15 Minutes		30 Minutes		45 Minutes		An Hour or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	3 (0.7)	232 (4.1)!	29 (2.1)	262 (1.8)	48 (2.6)	267 (1.5)	15 (2.0)	282 (3.8)	4 (0.9)	286 (5.4)!
Northeast	1 (0.5)	*** (***)	29 (5.0)	264 (5.4)!	59 (6.2)	264 (3.6)	9 (4.7)	306 (7.8)!	2 (0.8)	*** (***)
Southeast	3 (1.5)	*** (***)	27 (3.7)	253 (2.2)	51 (5.7)	262 (1.3)	14 (4.6)	272 (7.9)!	4 (1.6)	282 (6.8)!
Central	2 (1.9)	*** (***)	36 (5.9)	267 (2.8)!	43 (4.6)	278 (3.1)	15 (3.5)	288 (5.9)!	3 (1.7)	*** (***)
West	4 (1.5)	*** (***)	25 (2.7)	261 (3.7)	43 (3.6)	267 (3.0)	22 (3.2)	277 (4.9)	6 (2.2)	290 (8.1)!
STATES										
Alabama	3 (1.1)	248 (7.4)!	24 (3.9) <	246 (3.2)	56 (3.2) >	251 (2.6)	13 (2.7)	264 (6.1)!	4 (1.5)	262(17.6)!
Arizona	5 (2.0)	258 (5.0)!	32 (2.8)	254 (2.1)	47 (3.3)	265 (2.1)	12 (2.0)	280 (3.3)	5 (1.3)	286 (7.8)!
Arkansas	4 (1.4)	237 (6.4)!	30 (3.0)	251 (2.5)	51 (2.9)	257 (1.7)	13 (1.7)	264 (4.7)	2 (0.7)	*** (***)
California	2 (0.6)	*** (***)	29 (2.7)	253 (2.5)	50 (2.9)	260 (2.5)	13 (1.9)	283 (3.7)	6 (1.6)	275 (5.5)!
Colorado	2 (0.7)	*** (***)	25 (2.8) <	265 (2.7)	53 (3.1)	271 (1.7)	15 (2.0)	278 (3.9)	5 (1.1)	290 (4.5)!
Connecticut	1 (0.2)	*** (***)	26 (2.9)	260 (2.6)	55 (2.8)	276 (1.7)	15 (2.1)	286 (7.5)	4 (1.0)	291 (5.2)!
Delaware	2 (0.4)	*** (***)	29 (0.9) «	250 (1.7)	51 (1.0) »	264 (1.2)	12 (0.9)	279 (3.4) «	6 (0.4)	287 (2.7)
Dist. Columbia	0 (0.1) «	*** (***)	21 (1.0) «	233 (2.9) >	52 (1.3) »	228 (1.5) «	17 (0.8)	246 (2.1)	10 (0.6) »	248 (2.8)
Florida	4 (1.0)	233 (5.9)!	30 (2.7)	251 (2.3)	49 (2.9)	261 (2.0)	11 (1.7)	276 (4.4)	6 (1.3)	280 (6.3)!
Georgia	4 (0.8)	233 (4.5)	31 (2.8)	250 (2.3)	49 (3.1)	260 (1.8)	13 (1.7)	274 (3.6)	2 (0.6)	*** (***)
Hawaii	3 (0.4)	*** (***)	19 (0.7)	242 (2.0)	50 (0.9)	257 (0.9) »	19 (0.7)	265 (1.7)	9 (0.6)	283 (2.8)
Idaho	6 (1.0)	252 (3.8)	33 (2.1) «	269 (1.5)	47 (2.7)	278 (1.1) >	13 (2.2)	284 (3.4)	1 (0.2)	*** (***)
Indiana	1 (0.7)	*** (***)	33 (2.7)	262 (1.5)	55 (2.5)	270 (2.0)	9 (1.4)	292 (4.9)	2 (0.8)	*** (***)
Iowa	2 (0.9)	*** (***)	28 (3.4)	275 (2.1)	58 (3.8)	283 (1.4)	11 (2.5)	301 (5.4)!	1 (1.0)	*** (***)
Kentucky	3 (0.8)	229 (4.9)!	33 (3.5)	254 (2.0)	46 (3.1)	265 (1.7)	13 (2.6)	275 (4.6)	5 (1.4)	289 (5.9)!
Louisiana	2 (0.9)	*** (***)	38 (3.5)	250 (2.1)	52 (3.6) >	250 (2.5)	7 (1.3)	252 (8.2)	2 (0.8)	*** (***)
Maine	1 (0.6)	*** (***)	26 (3.3)	270 (2.0)	60 (3.4)	280 (1.6)	10 (2.1)	291 (3.1)!	2 (0.8)	*** (***)
Maryland	0 (0.2)	*** (***)	30 (2.7)	252 (2.6)	57 (2.6) >	268 (2.1)	11 (1.7)	290 (4.0)	2 (0.9)	*** (***)
Massachusetts	1 (0.3)	*** (***)	15 (2.3)	261 (3.6)	58 (3.2)	270 (1.8)	20 (2.4)	288 (3.9)	6 (1.7)	277 (4.6)!
Michigan	1 (0.4)	*** (***)	29 (3.0) <	264 (2.4)	49 (3.4)	267 (2.7)	15 (2.8)	275 (5.9)	7 (1.2) >	263 (5.0)
Minnesota	2 (1.0)	*** (***)	27 (3.9) <	276 (2.3)	57 (3.7) >	281 (1.5) >	11 (2.5)	295 (4.3)!	2 (0.8)	*** (***)
Mississippi	3 (1.5)	*** (***)	31 (3.4)	241 (2.7)	49 (3.7)	246 (2.0)	11 (2.2)	257 (5.1)	6 (2.0)	251 (8.9)!
Missouri	3 (1.0)	245 (8.3)!	27 (3.1)	264 (1.9)	52 (3.9)	270 (1.6)	14 (2.3)	287 (4.0)	4 (0.9)	295 (5.3)!
Nebraska	1 (0.3)	*** (***)	34 (3.1)	268 (2.4)	50 (3.6)	279 (1.4)	13 (2.6)	295 (3.6)! »	2 (0.8)	*** (***)
New Hampshire	1 (0.8)	*** (***)	26 (3.1)	267 (1.6)	60 (2.8)	278 (1.5)	11 (1.5)	297 (3.9)	2 (0.9)	*** (***)
New Jersey	0 (0.2)	*** (***)	25 (3.3)	267 (3.5)	55 (3.4)	274 (2.5)	15 (2.4)	278 (5.5)	4 (1.6)	246 (9.3)!
New Mexico	3 (0.8)	233 (3.8)!	33 (3.0)	252 (1.8)	44 (2.6)	261 (1.2) »	17 (2.3)	267 (2.5)	3 (0.6) «	299 (4.3)! »
New York	0 (0.5)	*** (***)	26 (3.2) <	259 (3.8)	59 (2.9)	266 (3.3)	11 (1.9)	279 (5.7)	3 (0.9)	*** (***)
North Carolina	3 (0.7)	226 (6.5)!	31 (2.9)	247 (2.2)	50 (3.3)	260 (1.9)	15 (2.3)	273 (4.2)	2 (0.6)	*** (***)
North Dakota	2 (0.9)	*** (***)	20 (2.9) «	278 (1.9)	60 (3.7)	283 (1.3)	15 (2.2)	265 (4.0)	3 (0.8)	*** (***)
Ohio	2 (0.7)	*** (***)	31 (4.7)	264 (4.6)	53 (4.3)	268 (2.1)	11 (1.7)	284 (6.1)	3 (0.8)	296 (6.5)!
Oklahoma	4 (1.2)	244 (6.7)!	24 (3.5)	261 (2.2)	50 (3.3)	269 (1.7) >	15 (2.5)	275 (3.0)	6 (1.7)	276 (8.9)!
Pennsylvania	0 (0.1)	*** (***)	33 (3.1)	259 (2.4)	60 (2.9) >	274 (2.0)	6 (1.0)	298 (4.3) >	1 (0.5)	*** (***)
Rhode Island	2 (0.2)	*** (***)	18 (0.8) «	247 (1.9)	59 (1.1) »	266 (1.0) >	15 (0.8) <	279 (2.4)	6 (0.4) »	288 (2.1) »
South Carolina	2 (0.5)	*** (***)	38 (3.1)	249 (1.9)	50 (3.4)	263 (1.9)	9 (1.5)	287 (5.5)	1 (0.4)	*** (***)
Tennessee	1 (0.5)	*** (***)	29 (3.5)	254 (2.4)	55 (3.5)	257 (1.8)	11 (2.2)	275 (3.8)!	3 (0.9)	279 (9.3)!
Texas	3 (0.6)	231 (4.2)	32 (3.3) <	255 (1.8)	48 (3.0)	265 (2.3)	13 (2.0)	277 (3.9)	5 (1.1)	299 (6.3)!
Utah	2 (0.5)	*** (***)	29 (2.3)	264 (1.9)	52 (2.4)	277 (1.3)	14 (1.7)	283 (2.4)	2 (0.8)	295 (3.3)!
Virginia	2 (0.8)	233 (4.5)!	32 (2.6)	253 (1.6)	53 (2.6) >	271 (1.6)	9 (1.2)	295 (3.7)	3 (0.8)	298(11.7)!
West Virginia	5 (1.1)	236 (2.7)! <	52 (3.1)	253 (1.1)	39 (3.2)	267 (2.2)	4 (1.1)	280 (6.4)!	1 (0.4)	*** (***)
Wisconsin	1 (0.5)	*** (***)	34 (3.9)	271 (2.1)	57 (4.3)	281 (2.2)	7 (1.7)	290 (6.2)!	1 (0.5)	*** (***)
Wyoming	2 (1.3)	*** (***)	42 (2.7)	271 (1.3)	43 (2.8)	277 (1.2)	11 (1.8)	282 (2.4)	2 (1.1)	*** (***)
TERRITORIES										
Guam	3 (0.3) «	*** (***)	32 (0.9) «	228 (1.9)	38 (1.1)	234 (1.5)	7 (0.8)	254 (4.8)	19 (1.1) »	246 (2.0)
Virgin Islands	1 (0.2) «	*** (***)	19 (0.8) «	216 (1.5)	46 (1.2) »	219 (1.7)	20 (0.9) <	232 (2.1) >	14 (0.9) »	218 (4.1)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 8.6 | Teachers' Reports on the Amount of Mathematics Homework Assigned Each Day (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	None		15 Minutes		30 Minutes		45 Minutes		An Hour or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	1 (0.3)	*** (***)	43 (4.2)	256 (2.4)	43 (4.3)	266 (2.6)	10 (1.9)	272 (6.1)!	4 (0.9)	277 (5.9)
Northeast	0 (0.0)	*** (***)	54(13.2)	265 (5.0)!	35(12.5)	270 (4.9)!	8 (2.7)	*** (***)	3 (0.6)	*** (***)
Southeast	1 (1.0)	*** (***)	44 (7.5)	249 (4.9)!	44 (7.6)	261 (5.3)!	8 (2.7)	*** (***)	3 (1.3)	*** (***)
Central	1 (0.8)	*** (***)	34 (7.1)	255 (5.4)	46 (9.6)	272 (3.1)	13 (6.0)	260(10.3)!	6 (2.3)	*** (***)
West	1 (0.3)	*** (***)	42 (6.7)	258 (4.4)	43 (6.2)	263 (4.8)	9 (2.3)	271 (7.5)!	5 (1.9)	*** (***)
STATES										
Alabama	4 (1.1)	243 (7.7)!	39 (3.7)	248 (2.0)	41 (3.2)	254 (1.8)	13 (2.5)	264 (4.1)	3 (0.8)	282 (7.6)!
Arizona	3 (0.5)	*** (***)	36 (2.5)	254 (1.9)	46 (2.6)	261 (1.8)	10 (1.5)	271 (3.6)	5 (0.8)	276 (4.8)
Arkansas	1 (0.3)	*** (***)	34 (3.4)	254 (2.2)	54 (3.4)	258 (1.2)	10 (2.6)	261 (4.3)!	1 (0.5)	*** (***)
California	2 (0.5)	*** (***)	30 (3.1)	247 (1.9)	52 (2.9)	257 (2.1)	10 (1.2)	273 (5.7)	6 (0.9)	279 (5.9)
Colorado	1 (0.5)	*** (***)	40 (3.5)	261 (1.8)	45 (3.3)	267 (1.5)	10 (1.8)	288 (3.9)	3 (1.1)	285 (6.0)!
Connecticut	1 (0.4)	*** (***)	27 (2.6)	257 (2.4)	53 (3.1)	271 (1.6)	15 (2.6)	287 (3.3)	3 (0.9)	305 (4.0)!
Delaware	2 (0.5)	*** (***)	42 (1.1)	246 (1.4)	41 (1.2)	267 (2.0)	11 (0.7)	295 (2.3)	4 (0.8)	*** (***)
Dist. Columbia	3 (0.4)	*** (***)	44 (0.9)	223 (1.0)	32 (0.8)	239 (1.9)	15 (0.7)	243 (2.3)	6 (0.4)	246 (2.6)
Florida	4 (0.9)	236 (7.4)!	34 (2.8)	246 (1.9)	47 (2.6)	259 (2.0)	11 (1.3)	276 (3.6)	5 (1.1)	270 (8.3)!
Georgia	3 (0.9)	236 (9.8)!	38 (3.0)	252 (2.3)	43 (2.9)	261 (2.0)	12 (1.9)	268 (4.5)	4 (1.2)	275 (7.3)!
Hawaii	2 (0.4)	*** (***)	21 (0.8)	237 (1.7)	51 (0.9)	250 (1.1)	18 (0.8)	269 (1.9)	8 (0.6)	277 (3.0)
Idaho	4 (0.5)	244 (3.3)	43 (1.4)	269 (1.0)	43 (1.5)	273 (1.3)	8 (1.1)	284 (3.8)	2 (0.3)	*** (***)
Indiana	3 (1.4)	249(12.3)!	36 (2.8)	258 (1.9)	48 (3.0)	269 (1.9)	10 (1.7)	296 (4.1)	3 (1.0)	293(11.2)!
Iowa	1 (0.6)	*** (***)	40 (4.1)	272 (1.8)	49 (4.4)	279 (2.0)	8 (1.9)	295 (4.0)!	2 (1.2)	*** (***)
Kentucky	7 (1.7)	235 (5.5)!	37 (3.7)	253 (1.6)	43 (4.4)	259 (1.9)	9 (1.8)	272 (4.1)!	4 (1.6)	280 (8.0)!
Louisiana	3 (1.2)	236 (9.7)!	47 (3.7)	244 (1.8)	38 (3.3)	249 (2.2)	8 (1.9)	248 (4.0)!	4 (1.4)	258 (7.9)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	3 (1.1)	236 (6.7)!	39 (2.9)	252 (2.2)	46 (2.5)	265 (2.2)	8 (1.2)	288 (5.2)	4 (1.3)	274 (7.5)!
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	3 (0.8)	250 (5.1)!	42 (3.7)	261 (1.6)	43 (3.1)	265 (1.8)	10 (1.6)	280 (5.4)	3 (0.9)	*** (***)
Minnesota	2 (0.5)	*** (***)	46 (3.4)	274 (1.6)	42 (3.3)	275 (1.8)	7 (1.6)	290 (4.5)!	2 (1.1)	289 (6.9)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	2 (0.3)	*** (***)	35 (2.8)	271 (2.0)	44 (3.4)	278 (1.5)	17 (2.8)	278 (3.1)	3 (0.4)	*** (***)
New Hampshire	2 (0.5)	*** (***)	33 (0.9)	265 (1.5)	55 (1.0)	274 (1.3)	8 (0.8)	291 (3.2)	3 (0.4)	297 (3.9)
New Jersey	2 (0.7)	*** (***)	24 (2.7)	263 (2.4)	59 (3.3)	272 (2.0)	11 (1.9)	277 (5.8)	4 (1.1)	274(11.5)!
New Mexico	3 (0.5)	242 (3.9)	33 (1.1)	256 (1.2)	44 (1.5)	253 (1.2)	12 (1.0)	269 (2.8)	7 (0.8)	274 (2.7)
New York	2 (0.6)	*** (***)	38 (3.0)	255 (2.4)	49 (3.0)	264 (2.2)	10 (1.8)	269 (5.3)	1 (0.7)	*** (***)
North Carolina	3 (0.9)	219 (3.4)!	40 (2.8)	243 (1.9)	46 (2.5)	255 (2.2)	8 (1.5)	271 (5.6)	3 (0.7)	282 (6.5)!
North Dakota	1 (0.8)	*** (***)	37 (2.6)	279 (1.9)	51 (3.7)	283 (1.9)	10 (1.6)	282 (4.5)	2 (0.3)	*** (***)
Ohio	1 (0.4)	*** (***)	36 (3.8)	258 (2.3)	52 (3.7)	267 (1.6)	7 (1.4)	283 (4.7)!	4 (1.1)	285 (8.0)!
Oklahoma	2 (0.5)	*** (***)	24 (3.2)	259 (2.5)	54 (2.9)	263 (1.8)	11 (1.7)	273 (3.3)	9 (2.0)	271 (4.6)!
Pennsylvania	2 (0.7)	*** (***)	41 (2.9)	258 (1.9)	44 (3.2)	274 (2.4)	12 (2.2)	273 (7.5)	2 (0.8)	*** (***)
Rhode Island	2 (0.3)	*** (***)	29 (1.1)	246 (1.7)	46 (1.1)	261 (1.0)	19 (0.8)	282 (1.6)	4 (0.3)	271 (4.1)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	5 (1.1)	232 (5.0)!	46 (3.2)	252 (1.8)	41 (3.0)	259 (1.9)	7 (1.2)	268 (6.8)	2 (0.7)	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	2 (0.5)	*** (***)	41 (2.7)	253 (2.2)	42 (1.9)	269 (2.3)	11 (1.4)	285 (4.4)	3 (1.0)	274(10.6)!
West Virginia	5 (1.9)	253 (4.9)!	48 (3.3)	251 (1.4)	35 (3.2)	260 (2.4)	9 (1.8)	268 (5.7)!	3 (1.0)	*** (***)
Wisconsin	2 (0.5)	*** (***)	46 (3.8)	271 (1.9)	42 (3.7)	278 (2.2)	7 (1.7)	284 (3.8)!	3 (0.9)	296 (5.1)!
Wyoming	3 (0.2)	258 (3.7)	47 (1.0)	270 (1.1)	36 (1.0)	274 (1.0)	12 (0.8)	281 (2.2)	2 (0.3)	*** (***)
TERRITORIES										
Guam	8 (0.5)	211 (3.5)	37 (0.8)	231 (1.4)	39 (0.8)	232 (0.9)	7 (0.6)	252 (1.7)	9 (0.5)	239 (2.1)
Virgin Islands	3 (0.3)	*** (***)	31 (0.8)	213 (2.1)	33 (0.8)	225 (1.6)	23 (0.6)	224 (1.6)	10 (0.5)	220 (3.1)

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TABLE 8.7 Students' Reports on Amount of Time Spent on Mathematics Homework Each Day, Grades 4, 8, and 12

		Grade 4		Grade 8		Grade 12 All Students		Grade 12 Taking Math	
	Assessment Years	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
None	1992	6 (0.6)	222 (2.2)	8 (0.4)	255 (2.2)	9 (0.5)<	286 (1.9)	9(0.6)	295 (2.1)
	1990	7 (0.7)	220 (3.4)	9 (0.7)	252 (2.8)	19 (0.9)	282 (1.8)	10(0.8)	293 (3.6)
15 Minutes	1992	40 (1.0)	221 (1.0)>	28 (0.7)	270 (1.2)	15 (0.7)	305 (1.5)	22(1.0)	306 (1.5)
	1990	39 (1.2)	217 (1.1)	31 (1.8)	265 (1.6)	14 (1.0)	300 (2.3)	21(1.4)	304 (2.2)
30 Minutes	1992	29 (0.7)	222 (1.0)>	36 (0.6)>	270 (1.3)>	21 (0.8)	305 (1.3)	32(0.9)	306 (1.3)
	1990	27 (1.1)	217 (1.6)	32 (1.1)	264 (1.7)	19 (1.0)	303 (2.2)	30(1.3)	305 (2.1)
45 Minutes	1992	12 (0.5)	217 (1.4)>	16 (0.5)	270 (1.5)>	12 (0.5)	309 (1.8)	18(0.7)	310 (1.9)
	1990	12 (0.9)	206 (2.0)	16 (0.9)	266 (1.9)	11 (0.6)	304 (2.4)	17(0.9)	307 (2.4)
An Hour or More	1992	12 (0.6)<	205 (1.7)	13 (0.6)	266 (1.9)	13 (0.5)	308 (1.7)	19(0.8)	310 (1.6)
	1990	15 (0.8)	201 (2.6)	12 (1.0)	259 (2.7)	14 (0.7)	303 (2.1)	21(1.3)	306 (2.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. The percentages may not total 100 percent due to rounding error.

TABLE 8.8 | Students' Reports on the Amount of Time Spent on Mathematics Homework Each Day

PUBLIC SCHOOLS	Grade 4 - 1992									
	None		15 Minutes		30 Minutes		45 Minutes		An Hour or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (0.7)	221 (2.4)	39 (1.1)	220 (1.2)	29 (0.8)	221 (1.1)	12 (0.5)	217 (1.6)	12 (0.7)	204 (1.8)
Northeast	3 (0.5)	*** (***)	45 (3.5)	226 (3.0)	30 (2.7)	229 (3.1)	12 (1.2)	216 (3.9)	11 (1.4)	205 (4.6)
Southeast	5 (0.6)	198 (4.2)	37 (2.0)	211 (2.2)	30 (0.8)	214 (2.4)	12 (1.0)	209 (2.4)	17 (1.6)	199 (3.0)
Central	11 (1.3)	229 (3.5)	36 (1.9)	224 (2.8)	26 (1.5)	223 (2.3)	15 (0.8)	222 (2.9)	12 (1.8)	210 (3.6)
West	8 (1.8)	225 (3.7)!	41 (1.7)	219 (2.2)	30 (1.4)	220 (1.4)	10 (0.9)	217 (3.6)	11 (0.9)	203 (3.0)
STATES										
Alabama	4 (0.4)	201 (4.9)	36 (1.2)	210 (2.2)	28 (0.8)	211 (1.9)	13 (0.7)	207 (2.5)	19 (0.8)	198 (1.7)
Arizona	9 (0.9)	218 (2.9)	39 (1.1)	218 (1.2)	28 (1.0)	215 (1.3)	12 (0.7)	210 (2.4)	12 (0.8)	204 (2.7)
Arkansas	7 (0.8)	212 (3.2)	34 (1.1)	211 (1.3)	27 (0.9)	213 (1.7)	15 (0.8)	207 (1.9)	16 (0.9)	199 (1.9)
California	5 (0.6)	209 (5.3)	40 (1.1)	211 (2.1)	29 (1.0)	210 (1.9)	14 (0.8)	207 (2.8)	13 (0.7)	196 (2.8)
Colorado	9 (0.7)	224 (2.5)	36 (1.0)	223 (1.3)	27 (1.0)	223 (1.3)	13 (0.5)	220 (1.9)	15 (0.8)	210 (1.5)
Connecticut	4 (0.5)	228 (5.2)	45 (1.4)	231 (1.5)	29 (1.2)	226 (1.5)	13 (0.7)	221 (2.3)	9 (0.7)	209 (2.5)
Delaware	5 (0.8)	211 (4.3)	46 (1.2)	218 (1.2)	28 (1.1)	223 (1.3)	10 (0.7)	213 (1.9)	11 (0.5)	205 (3.1)
Dist. Columbia	3 (0.3)	176 (3.6)	38 (1.2)	192 (1.1)	27 (1.2)	199 (1.4)	12 (0.7)	194 (2.3)	19 (0.8)	183 (1.6)
Florida	4 (0.6)	207 (3.7)	41 (1.3)	216 (2.0)	29 (1.1)	214 (1.6)	13 (0.7)	211 (2.7)	13 (0.7)	201 (2.4)
Georgia	4 (0.5)	220 (4.2)	42 (1.2)	215 (1.8)	28 (0.8)	219 (1.6)	12 (0.7)	213 (2.3)	14 (0.8)	204 (1.9)
Hawaii	2 (0.4)	193 (6.5)	32 (1.1)	211 (2.1)	27 (1.0)	220 (1.6)	17 (0.8)	219 (1.6)	21 (0.9)	209 (1.7)
Idaho	16 (1.0)	228 (1.3)	36 (1.1)	223 (1.4)	25 (0.9)	219 (1.2)	11 (0.7)	218 (1.9)	11 (0.8)	209 (2.4)
Indiana	8 (0.7)	232 (3.1)	37 (1.2)	220 (1.4)	30 (0.9)	223 (1.2)	13 (0.8)	218 (1.8)	13 (0.7)	207 (1.5)
Iowa	11 (0.9)	234 (2.2)	36 (1.0)	233 (1.6)	29 (0.9)	228 (1.3)	12 (0.7)	229 (2.0)	12 (0.8)	218 (2.0)
Kentucky	7 (0.7)	216 (3.2)	35 (1.1)	217 (1.5)	29 (0.9)	216 (1.4)	13 (0.9)	214 (1.9)	16 (0.9)	205 (1.6)
Louisiana	4 (0.6)	209 (5.7)	46 (1.3)	206 (1.6)	24 (0.8)	206 (1.6)	11 (0.7)	203 (2.3)	14 (0.9)	191 (2.1)
Maine	8 (1.2)	230 (2.5)	38 (1.2)	235 (1.4)	30 (1.2)	231 (1.4)	13 (0.9)	231 (2.3)	11 (0.8)	220 (2.9)
Maryland	3 (0.3)	198 (6.6)	45 (1.2)	220 (1.6)	27 (1.0)	222 (1.7)	12 (0.7)	213 (2.9)	13 (0.6)	200 (1.9)
Massachusetts	4 (0.6)	224 (5.2)	45 (1.3)	230 (1.4)	30 (1.0)	226 (1.5)	12 (0.8)	221 (2.1)	10 (0.6)	212 (2.4)
Michigan	9 (0.8)	229 (3.6)	37 (1.4)	221 (2.2)	26 (1.0)	223 (1.8)	13 (0.6)	218 (2.1)	15 (0.9)	203 (2.5)
Minnesota	12 (1.0)	235 (2.5)	37 (1.4)	230 (1.3)	28 (1.1)	229 (1.4)	12 (0.7)	224 (2.5)	12 (1.0)	217 (2.2)
Mississippi	4 (0.4)	195 (4.5)	38 (1.3)	201 (1.5)	27 (0.9)	204 (1.5)	13 (0.7)	203 (2.3)	18 (0.9)	194 (1.6)
Missouri	10 (1.1)	230 (3.2)	36 (1.1)	224 (1.4)	29 (1.1)	222 (1.6)	12 (0.7)	220 (2.0)	13 (0.8)	208 (2.2)
Nebraska	15 (1.3)	234 (2.1)	33 (1.4)	227 (1.9)	27 (1.0)	224 (1.7)	13 (0.8)	222 (1.8)	12 (0.9)	213 (2.4)
New Hampshire	5 (0.8)	231 (3.0)	41 (1.5)	233 (1.5)	30 (1.0)	229 (1.4)	12 (0.7)	227 (2.6)	11 (0.9)	217 (1.9)
New Jersey	2 (0.3)	*** (***)	50 (1.4)	230 (1.6)	27 (1.0)	228 (1.9)	11 (0.7)	223 (2.6)	10 (0.7)	212 (2.7)
New Mexico	8 (0.9)	216 (3.1)	33 (1.5)	215 (1.9)	28 (1.0)	214 (1.9)	15 (0.8)	212 (2.7)	16 (0.7)	202 (2.5)
New York	4 (0.6)	227 (4.8)	43 (1.7)	221 (1.6)	27 (1.0)	220 (1.6)	13 (1.0)	211 (2.8)	13 (0.9)	205 (2.6)
North Carolina	4 (0.8)	210 (5.6)!	40 (1.2)	215 (1.3)	28 (0.8)	217 (1.6)	13 (0.7)	209 (1.9)	14 (0.8)	198 (1.9)
North Dakota	10 (0.9)	239 (2.3)	34 (1.2)	230 (1.2)	29 (1.0)	228 (1.3)	14 (0.8)	228 (1.5)	12 (1.0)	214 (2.2)
Ohio	5 (0.6)	222 (3.7)	40 (0.9)	220 (1.8)	29 (0.9)	222 (1.2)	12 (0.7)	217 (1.9)	14 (0.9)	205 (2.2)
Oklahoma	13 (0.8)	228 (2.0)	32 (1.2)	221 (1.4)	26 (0.9)	221 (1.5)	14 (0.6)	214 (1.4)	15 (1.0)	211 (1.8)
Pennsylvania	2 (0.4)	215 (5.4)	50 (1.6)	228 (1.7)	28 (1.1)	224 (1.5)	10 (0.7)	215 (2.2)	10 (0.7)	207 (2.2)
Rhode Island	4 (0.5)	199 (4.3)	47 (1.4)	219 (1.7)	28 (1.0)	214 (2.0)	10 (0.7)	215 (2.4)	12 (0.8)	203 (2.7)
South Carolina	3 (0.3)	204 (6.0)	47 (1.3)	213 (1.4)	25 (1.1)	217 (1.5)	12 (0.6)	208 (2.5)	13 (0.8)	199 (1.8)
Tennessee	4 (0.5)	210 (3.9)	34 (1.1)	211 (1.8)	32 (1.0)	213 (1.5)	14 (0.8)	209 (2.1)	16 (0.8)	203 (1.9)
Texas	7 (0.9)	217 (3.5)	39 (1.3)	221 (1.6)	28 (1.1)	217 (1.7)	13 (0.8)	216 (2.3)	13 (0.9)	209 (2.2)
Utah	13 (1.1)	227 (2.0)	39 (1.1)	227 (1.2)	25 (1.1)	221 (1.6)	11 (0.7)	220 (2.1)	12 (0.7)	214 (2.3)
Virginia	3 (0.4)	216 (5.3)	43 (1.5)	223 (1.4)	29 (1.0)	223 (1.9)	12 (0.6)	217 (2.7)	13 (0.8)	208 (2.0)
West Virginia	8 (0.6)	222 (2.9)	35 (1.3)	217 (1.5)	29 (0.9)	215 (1.2)	12 (0.7)	211 (1.8)	15 (0.8)	204 (1.7)
Wisconsin	7 (0.7)	231 (2.9)	38 (1.2)	230 (1.3)	28 (1.0)	229 (1.6)	14 (0.7)	230 (1.8)	13 (0.7)	216 (2.1)
Wyoming	14 (1.0)	231 (1.6)	36 (1.2)	226 (1.3)	25 (0.9)	224 (1.2)	13 (0.8)	223 (1.9)	12 (0.8)	215 (2.2)
TERRITORY										
Guam	4 (0.5)	178 (4.8)	34 (1.3)	192 (1.5)	27 (1.2)	199 (1.7)	14 (0.8)	192 (2.3)	21 (1.0)	185 (2.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 8.8 | Students' Reports on the Amount of Time Spent on Mathematics Homework Each Day (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	None		15 Minutes		30 Minutes		45 Minutes		An Hour or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	8 (0.4)	253 (2.4)	28 (0.8)	268 (1.4)	35 (0.7)	268 (1.3)	16 (0.6)	269 (1.7)	13 (0.7)	265 (2.0)
Northeast	7 (0.9)	255 (5.9)	33 (2.5)	267 (3.6)	36 (1.5)	271 (4.5)	15 (1.3)	276 (3.6)	8 (1.3)	265 (6.3)
Southeast	9 (1.1)	245 (4.1)	25 (0.9)	261 (3.0)	34 (1.4)	261 (1.9)	17 (0.9)	260 (2.8)	14 (1.4)	254 (2.9)
Central	6 (0.7)	261 (5.2)	32 (1.5)	278 (2.6)	38 (1.4)	272 (2.8)	15 (1.5)	274 (3.2)	10 (0.8)	270 (3.2)
West	9 (0.8)	255 (4.2)	22 (1.5)	266 (2.1)	33 (1.0)	269 (2.3)	17 (1.0)	269 (4.3)	18 (1.6)	270 (3.5)
STATES										
Alabama	8 (0.8)	246 (2.7)	26 (1.2)	254 (2.1)	33 (1.0)	253 (2.0)	16 (0.9)	251 (2.7)	16 (0.9)	246 (2.8)
Arizona	9 (0.9)	259 (3.0)	26 (1.4)	266 (1.6) >	32 (1.1)	264 (1.6)	18 (0.8)	268 (2.0)	15 (1.7)	264 (2.5)
Arkansas	9 (0.9)	250 (2.3)	30 (0.9)	259 (1.5)	30 (1.1)	257 (1.6)	17 (0.7)	256 (2.5)	14 (0.9)	249 (2.4)
California	7 (0.6)	249 (3.1)	25 (1.3)	258 (2.2)	38 (1.1)	263 (2.0)	16 (1.0)	263 (2.6)	13 (0.8)	265 (3.2)
Colorado	8 (0.6)	258 (3.3)	26 (1.0)	274 (1.7)	34 (1.1) >	272 (1.5)	17 (0.8)	276 (1.7) >	14 (0.9)	269 (2.1)
Connecticut	5 (0.7)	254 (4.1)	33 (1.1)	275 (1.6)	40 (1.0)	273 (1.3)	13 (0.8)	283 (2.1) >	8 (0.8)	264 (4.0)
Delaware	7 (0.6)	248 (2.9)	36 (1.4)	263 (1.7)	35 (1.1)	265 (1.4)	14 (0.8)	262 (2.9)	8 (0.7)	259 (3.1)
Dist. Columbia	10 (0.8)	225 (3.3)	27 (0.9)	237 (1.5)	32 (1.0)	237 (1.5)	16 (1.0)	234 (1.8)	15 (0.8)	231 (2.2)
Florida	10 (1.0)	250 (2.6)	28 (1.2)	261 (2.1)	32 (0.9)	260 (1.8)	15 (0.7)	260 (2.2)	15 (0.8) »	260 (2.9)
Georgia	8 (0.6)	246 (3.0)	26 (1.1)	259 (1.8)	35 (1.0) >	259 (1.5)	16 (1.0)	263 (2.1)	14 (0.8)	260 (2.4)
Hawaii	7 (0.6)	239 (3.1)	24 (0.8)	250 (1.6)	33 (1.0)	260 (1.3) >	16 (1.0)	264 (1.9)	19 (0.9)	262 (1.9) >
Idaho	12 (0.7)	272 (2.0)	24 (0.7) <	277 (1.2)	31 (1.0)	274 (1.2)	17 (0.8) >	275 (1.7)	15 (0.8)	273 (2.3)
Indiana	7 (0.8)	260 (3.5)	31 (1.3)	270 (1.4)	36 (1.3)	271 (1.6)	16 (0.8)	269 (2.3)	10 (0.7)	270 (2.8)
Iowa	6 (0.6)	271 (5.1)	32 (1.2)	285 (1.3)	36 (1.1)	283 (1.2)	16 (0.9)	285 (1.9) >	9 (0.6)	279 (1.9) >
Kentucky	11 (0.7)	251 (2.4)	28 (1.2)	261 (1.6)	31 (1.1)	265 (1.4) >	16 (0.9)	264 (2.3) >	14 (0.8)	260 (2.3) >
Louisiana	8 (0.7)	252 (3.0)	30 (1.2)	254 (2.0)	32 (1.1)	250 (2.4)	15 (0.8)	248 (2.3)	15 (0.8)	239 (2.7)
Maine	5 (0.6)	260 (5.1)	29 (1.3)	276 (1.6)	40 (1.0)	281 (1.2)	17 (0.8)	279 (2.1)	9 (0.7)	278 (3.2)
Maryland	5 (0.8)	251 (4.3)	34 (1.3)	263 (1.8)	40 (1.2)	269 (1.6)	12 (0.8)	268 (2.7)	8 (0.8)	256 (3.3)
Massachusetts	4 (0.5)	248 (3.8)	30 (1.4)	270 (1.6)	42 (1.1)	273 (1.4)	16 (0.9)	278 (1.8)	9 (0.9)	273 (3.7)
Michigan	8 (0.7)	257 (3.0)	25 (1.1)	270 (2.1)	36 (1.1) >	269 (1.9)	17 (0.8)	269 (2.4)	14 (0.9)	259 (2.5)
Minnesota	7 (0.8)	277 (2.8)	28 (1.4) <	283 (1.4) >	36 (1.2) »	284 (1.3) »	16 (0.9)	281 (2.2)	12 (1.0)	278 (2.4)
Mississippi	7 (1.0)	241 (3.3)	26 (1.2)	248 (1.7)	34 (1.2)	248 (1.4)	17 (1.0)	241 (2.3)	17 (1.0)	243 (2.6)
Missouri	7 (0.5)	261 (2.9)	27 (1.3)	273 (1.7)	36 (1.0)	271 (1.6)	16 (0.8)	272 (2.1)	14 (1.0)	268 (2.5)
Nebraska	6 (0.6)	271 (3.1)	25 (1.4)	276 (2.0)	37 (1.1)	280 (1.5)	20 (1.0) >	276 (2.2)	12 (1.1)	275 (2.2)
New Hampshire	4 (0.6)	264 (4.3)	34 (1.0)	276 (1.4)	39 (1.2)	279 (1.4)	15 (0.7)	281 (2.1)	8 (0.7)	279 (2.9)
New Jersey	4 (0.5)	258 (5.2)	34 (1.6)	275 (1.5)	38 (1.3)	273 (1.8)	15 (1.1)	273 (3.0)	9 (0.6)	258 (3.4)
New Mexico	11 (0.9)	253 (2.4)	25 (1.0)	261 (1.3)	33 (1.0) >	257 (1.0)	17 (0.9)	261 (1.8)	15 (1.0)	263 (2.2) >
New York	4 (0.5)	248 (6.6)	42 (1.9)	268 (1.7)	36 (1.3)	270 (2.4)	11 (1.1)	265 (3.5)	7 (1.0)	247 (5.7)
North Carolina	7 (0.7)	244 (2.8)	29 (1.3)	257 (1.7) >	35 (1.2)	262 (1.5) >	17 (1.0)	261 (2.1) >	12 (0.8)	254 (2.7)
North Dakota	6 (0.6) <	283 (2.8)	24 (1.4) <	287 (2.0)	36 (1.4)	283 (1.3)	20 (1.3) >	281 (2.0)	14 (1.1)	277 (2.2)
Ohio	8 (0.8)	248 (2.3) <	31 (2.2)	270 (1.8)	36 (1.3)	272 (1.7)	16 (1.4)	269 (2.3)	10 (0.7)	262 (4.5)
Oklahoma	9 (0.9)	263 (2.9)	22 (1.2)	269 (1.7)	30 (1.1)	268 (1.7)	20 (1.0)	270 (1.8)	19 (1.1)	264 (2.3)
Pennsylvania	5 (0.6)	251 (3.6)	37 (1.4)	271 (1.5)	38 (1.2)	273 (1.8)	14 (0.7) >	275 (2.9) >	6 (0.8)	261 (4.4)
Rhode Island	4 (0.4) <	247 (3.3)	34 (1.5)	266 (1.6) >	40 (1.0)	266 (1.5)	13 (0.8)	267 (2.4)	9 (0.7)	268 (2.8) >
South Carolina	7 (0.6)	254 (2.4)	32 (1.0)	260 (1.5)	36 (0.9)	262 (1.4)	14 (0.7)	259 (2.7)	11 (0.7)	259 (2.3)
Tennessee	7 (1.0)	251 (3.7)	26 (1.2)	260 (1.9)	36 (1.2)	260 (1.5)	18 (0.9)	260 (2.5)	13 (0.9)	251 (3.2)
Texas	9 (0.8)	252 (2.9)	23 (1.1)	264 (1.7)	30 (0.9)	265 (1.7)	19 (1.0)	268 (2.4) »	18 (1.1)	265 (2.6)
Utah	10 (0.7)	269 (1.9)	28 (1.0)	277 (1.1)	32 (0.9)	272 (1.2)	16 (0.7)	275 (1.7)	14 (0.8)	275 (2.1)
Virginia	6 (0.5)	247 (3.2)	29 (1.1)	267 (1.5)	39 (1.0)	269 (1.3)	15 (0.9)	273 (2.5)	11 (0.8)	268 (3.1)
West Virginia	15 (1.3)	253 (1.9)	27 (1.1)	262 (1.1) >	31 (1.1)	260 (1.3)	16 (0.9)	258 (2.0)	10 (0.8)	254 (2.0)
Wisconsin	8 (0.8)	271 (2.6)	33 (1.4)	280 (1.7)	36 (1.2)	279 (1.7)	14 (0.8)	279 (2.4)	9 (0.7)	266 (3.3)
Wyoming	11 (0.9)	267 (2.3)	30 (1.1)	279 (1.2)	31 (0.9)	275 (1.3)	16 (0.9)	273 (1.5)	13 (0.8)	268 (2.1)
TERRITORIES										
Guam	10 (0.9)	226 (3.9)	22 (1.0)	233 (2.0)	29 (1.4)	239 (2.0)	14 (1.0)	240 (3.0)	25 (1.2)	237 (2.0)
Virgin Islands	8 (0.8)	221 (2.8)	32 (1.1)	222 (1.7)	29 (1.3)	227 (1.6)	14 (1.1)	221 (2.8)	18 (1.0)	216 (1.8)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 8.8 | Students' Reports on the Amount of Time Spent on Mathematics Homework Each Day (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	None		15 Minutes		30 Minutes		45 Minutes		An Hour or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	9 (0.8)	251 (2.9)	31 (2.0)	264 (1.7)	32 (1.2)	263 (1.9)	16 (1.0)	266 (2.1)	12 (1.1)	258 (3.0)
Northeast	6 (1.2)	*** (***)	37 (3.3)	270 (2.6)	34 (2.6)	271 (5.8)	15 (2.3)	272 (6.7)	8 (1.7)	*** (***)
Southeast	11 (1.9)	237 (5.2)	25 (1.6)	255 (3.8)	33 (2.5)	259 (3.5)	17 (2.2)	264 (2.8)	14 (1.4)	247 (4.8)
Central	7 (1.4)	*** (***)	34 (4.8)	269 (3.2)	32 (2.3)	263 (3.3)	15 (1.2)	265 (4.0)	12 (3.4)	262 (7.1)
West	12 (1.7)	254 (4.2)	31 (4.5)	262 (3.7)	28 (1.7)	259 (2.9)	15 (1.6)	267 (4.3)	14 (1.7)	262 (4.3)
STATES										
Alabama	9 (1.0)	252 (2.1)	27 (1.1)	257 (1.8)	32 (0.9)	252 (1.5)	16 (0.8)	252 (2.3)	16 (1.0)	250 (2.2)
Arizona	9 (0.9)	257 (2.6)	24 (0.8)	260 (1.8)	32 (0.9)	261 (1.8)	17 (0.9)	261 (2.2)	18 (1.0)	259 (2.1)
Arkansas	9 (0.8)	251 (2.9)	28 (1.1)	260 (1.4)	33 (1.0)	258 (1.4)	16 (0.8)	253 (1.6)	14 (0.8)	254 (2.0)
California	7 (0.8)	248 (3.3)	29 (1.1)	255 (1.8)	35 (1.0)	260 (1.9)	16 (0.7)	258 (2.4)	13 (0.9)	256 (3.4)
Colorado	9 (0.8)	265 (3.4)	28 (1.1)	269 (1.3)	31 (0.9)	269 (1.2)	16 (0.9)	267 (1.7)	16 (1.1)	266 (1.9)
Connecticut	5 (0.7)	257 (2.7)	36 (1.0)	271 (1.5)	38 (1.1)	271 (1.4)	13 (0.8)	272 (2.3)	8 (0.6)	269 (3.9)
Delaware	7 (0.7)	244 (3.3)	37 (1.1)	258 (1.8)	34 (1.1)	267 (1.3)	13 (0.7)	265 (2.9)	9 (0.8)	260 (2.7)
Dist. Columbia	7 (0.6)	220 (2.3)	25 (0.9)	233 (1.7)	33 (1.0)	235 (1.4)	19 (0.7)	232 (1.7)	16 (0.7)	228 (2.2)
Florida	12 (0.8)	248 (2.5)	31 (1.0)	256 (1.5)	31 (1.0)	258 (1.8)	15 (0.7)	255 (2.3)	11 (0.7)	257 (3.0)
Georgia	10 (0.8)	255 (2.6)	29 (1.2)	261 (1.7)	31 (1.0)	263 (1.7)	16 (0.7)	257 (2.8)	13 (0.9)	252 (2.7)
Hawaii	7 (0.5)	239 (2.8)	22 (0.8)	245 (1.7)	31 (1.0)	255 (1.3)	18 (0.9)	257 (2.0)	21 (0.8)	255 (1.7)
Idaho	14 (0.8)	271 (2.2)	29 (1.1)	274 (1.2)	28 (1.1)	270 (1.3)	14 (0.8)	271 (2.3)	15 (0.7)	270 (1.7)
Indiana	8 (0.8)	258 (2.4)	30 (1.4)	268 (1.7)	34 (1.1)	267 (1.6)	15 (1.0)	272 (2.4)	12 (0.9)	267 (2.7)
Iowa	7 (0.9)	278 (2.7)	32 (1.5)	281 (1.5)	35 (1.1)	278 (1.4)	16 (0.9)	277 (2.0)	10 (0.9)	270 (2.5)
Kentucky	11 (0.8)	259 (2.4)	27 (0.8)	261 (1.5)	31 (1.0)	259 (1.4)	17 (0.8)	254 (1.8)	14 (0.9)	250 (3.0)
Louisiana	7 (0.7)	242 (2.7)	32 (1.4)	250 (1.5)	31 (0.9)	249 (1.6)	15 (0.9)	245 (2.4)	15 (1.1)	241 (2.6)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	4 (0.5)	240 (3.7)	39 (1.1)	260 (1.5)	36 (1.1)	263 (2.0)	13 (0.7)	266 (2.7)	9 (0.5)	261 (3.2)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	9 (0.7)	267 (2.8)	28 (1.3)	267 (1.4)	32 (1.0)	264 (1.6)	15 (0.8)	265 (2.5)	16 (1.0)	266 (2.8)
Minnesota	10 (0.7)	270 (2.6)	33 (1.3)	277 (1.4)	30 (1.0)	276 (1.4)	15 (1.0)	276 (1.7)	12 (1.0)	275 (2.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	8 (0.7)	275 (2.9)	29 (1.3)	276 (1.7)	35 (1.0)	276 (1.1)	16 (0.9)	276 (2.3)	12 (0.9)	274 (2.4)
New Hampshire	5 (0.5)	259 (2.9)	34 (1.2)	272 (1.6)	38 (1.5)	277 (1.3)	15 (0.9)	275 (2.1)	8 (0.6)	274 (2.6)
New Jersey	4 (0.4)	264 (3.5)	36 (1.3)	271 (1.6)	37 (0.9)	272 (1.4)	14 (0.9)	268 (2.7)	9 (0.7)	264 (3.2)
New Mexico	9 (0.6)	259 (2.6)	26 (1.1)	258 (1.5)	29 (1.0)	256 (1.2)	18 (0.9)	258 (2.0)	18 (0.9)	256 (1.9)
New York	4 (0.5)	257 (3.8)	40 (1.6)	263 (1.8)	36 (1.3)	265 (1.9)	12 (0.8)	259 (2.9)	8 (0.6)	245 (4.0)
North Carolina	9 (0.7)	239 (3.0)	29 (1.1)	250 (1.5)	33 (0.9)	254 (1.5)	17 (0.8)	251 (2.1)	13 (0.8)	252 (2.3)
North Dakota	9 (0.6)	286 (3.3)	31 (1.4)	285 (1.5)	33 (1.4)	279 (1.9)	16 (1.1)	278 (2.4)	12 (0.7)	272 (2.8)
Ohio	6 (0.7)	259 (2.9)	36 (1.1)	264 (1.3)	35 (1.1)	267 (1.5)	14 (0.7)	263 (2.4)	9 (0.6)	258 (2.9)
Oklahoma	10 (0.7)	264 (3.2)	24 (1.1)	268 (2.1)	29 (1.1)	263 (1.6)	18 (0.7)	264 (2.1)	20 (1.0)	258 (1.7)
Pennsylvania	5 (0.5)	250 (4.2)	41 (1.1)	269 (1.6)	35 (0.7)	268 (1.9)	11 (0.7)	264 (2.7)	8 (0.6)	265 (3.6)
Rhode Island	7 (0.5)	247 (2.7)	33 (0.8)	260 (1.3)	37 (0.9)	263 (1.1)	15 (0.7)	266 (1.8)	9 (0.6)	255 (3.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	12 (1.0)	258 (2.6)	26 (1.0)	260 (1.7)	30 (1.0)	260 (1.7)	16 (0.7)	254 (2.0)	15 (1.0)	258 (2.7)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	6 (0.7)	249 (2.6)	31 (1.1)	261 (1.8)	35 (1.1)	267 (2.0)	16 (0.8)	269 (2.5)	11 (0.7)	268 (3.2)
West Virginia	15 (1.1)	258 (2.4)	30 (1.1)	257 (1.0)	29 (1.0)	256 (1.7)	15 (0.8)	254 (1.6)	11 (0.9)	255 (2.2)
Wisconsin	8 (1.0)	270 (3.4)	37 (1.3)	278 (1.4)	33 (1.1)	274 (1.9)	13 (0.8)	273 (2.2)	9 (0.7)	269 (2.6)
Wyoming	10 (0.5)	266 (2.4)	29 (1.0)	275 (1.4)	31 (0.9)	275 (1.0)	16 (0.7)	271 (1.6)	14 (0.7)	268 (2.2)
TERRITORIES										
Guam	9 (0.6)	228 (3.4)	22 (1.1)	232 (2.3)	30 (1.0)	235 (1.5)	16 (0.8)	231 (2.7)	23 (1.2)	236 (2.2)
Virgin Islands	8 (0.7)	218 (3.9)	33 (1.5)	219 (1.7)	26 (1.1)	222 (1.7)	16 (1.1)	217 (2.3)	18 (0.9)	216 (2.2)

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TABLE 8.9 Teachers' Reports on the Instructional Emphasis Placed on Numbers and Operations, Grades 4 and 8

	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percent of Students	Numbers and Operations Proficiency	Percent of Students	Numbers and Operations Proficiency	Percent of Students	Numbers and Operations Proficiency
Grade 4						
Nation	92 (1.2)	218 (1.0)	8 (1.2)	219 (2.2)	0 (0.1)	220 (7.8)
High ability	98 (1.5)	238 (2.6)	2 (1.5)	247 (2.5)	0 (0.0)	*** (0.0)
Average ability	90 (2.2)	222 (1.3)	10 (2.2)	219 (3.2)	0 (0.2)	226 (6.9)
Low ability	91 (3.4)	194 (2.0)	9 (3.4)	212 (6.1)	0 (0.0)	*** (0.0)
Mixed ability	92 (1.8)	216 (1.3)	8 (1.8)	220 (3.7)	0 (0.0)	171(11.5)
Grade 8						
Nation	76 (1.8)	267 (1.1)	21 (1.6)	273 (2.2)	3 (0.7)	281 (7.6)
High ability	65 (3.4)	299 (2.2)	28 (3.3)	299 (3.1)	7 (1.7)	308 (5.4)
Average ability	77 (3.3)	266 (1.5)	21 (3.1)	267 (2.6)	2 (1.1)	249 (7.0)
Low ability	86 (2.4)	245 (2.1)	13 (2.3)	237 (4.6)	1 (0.4)	252 (7.6)
Mixed ability	78 (3.3)	260 (1.7)	20 (3.5)	267 (2.3)	2 (1.2)	243(11.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error. In 1990, different procedures were used to determine the emphasis placed on Numbers and Operations which involved a variety of subtopics.

TABLE 8.10 | Teachers' Reports on the Instructional Emphasis Placed on Numbers and Operations

PUBLIC SCHOOLS	Grade 4 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Numbers and Operations Proficiency	Percentage of Students	Numbers and Operations Proficiency	Percentage of Students	Numbers and Operations Proficiency
NATION	92 (1.3)	214 (1.3)	8 (1.3)	215 (3.1)	0 (0.1)	*** (***)
Northeast	86 (3.4)	218 (3.4)	14 (3.4)	220 (4.5)!	0 (0.0)	*** (***)
Southeast	92 (2.9)	204 (2.0)	7 (2.9)	209 (4.6)!	0 (0.4)	*** (***)
Central	95 (1.4)	221 (2.2)	5 (1.4)	*** (***)	0 (0.0)	*** (***)
West	93 (2.2)	214 (2.6)	7 (2.2)	214 (8.5)!	0 (0.0)	*** (***)
STATES						
Alabama	95 (1.8)	203 (1.8)	5 (1.8)	213 (6.1)!	0 (0.0)	*** (***)
Arizona	88 (2.1)	211 (1.4)	11 (2.0)	206 (3.7)	1 (0.5)	*** (***)
Arkansas	95 (1.5)	206 (1.2)	5 (1.5)	205 (5.4)!	0 (0.0)	*** (***)
California	87 (1.9)	205 (1.8)	12 (1.9)	204 (5.6)	0 (0.2)	*** (***)
Colorado	86 (2.4)	216 (1.3)	14 (2.4)	215 (3.2)	0 (0.0)	*** (***)
Connecticut	88 (2.0)	224 (1.7)	12 (2.0)	226 (3.9)	1 (0.4)	*** (***)
Delaware	89 (0.5)	215 (1.1)	11 (0.5)	214 (1.7)	0 (0.0)	*** (***)
Dist. Columbia	84 (0.7)	190 (1.1)	15 (0.7)	184 (2.2)	1 (0.1)	*** (***)
Florida	88 (2.3)	209 (1.5)	12 (2.3)	207 (3.0)!	0 (0.0)	*** (***)
Georgia	93 (1.3)	210 (1.3)	7 (1.3)	215 (5.5)!	0 (0.0)	*** (***)
Hawaii	89 (1.7)	210 (1.6)	11 (1.7)	214 (4.6)	0 (0.0)	*** (***)
Idaho	90 (2.2)	216 (1.6)	10 (2.2)	217 (3.4)!	0 (0.0)	*** (***)
Indiana	89 (2.3)	214 (1.4)	11 (2.3)	221 (3.2)!	0 (0.0)	*** (***)
Iowa	91 (2.1)	227 (1.4)	9 (2.1)	231 (4.6)!	0 (0.0)	*** (***)
Kentucky	91 (1.9)	211 (1.2)	9 (1.9)	213 (5.9)!	0 (0.0)	*** (***)
Louisiana	90 (1.7)	200 (1.8)	10 (1.6)	196 (2.8)	0 (0.3)	*** (***)
Maine	81 (2.4)	226 (1.5)	18 (2.5)	231 (3.2)	1 (0.5)	*** (***)
Maryland	86 (2.0)	214 (1.7)	13 (1.9)	225 (3.1)	1 (0.6)	*** (***)
Massachusetts	90 (2.6)	225 (1.5)	10 (2.6)	227 (4.0)!	0 (0.0)	*** (***)
Michigan	88 (2.3)	216 (2.1)	12 (2.3)	214 (5.5)	0 (0.4)	*** (***)
Minnesota	90 (2.1)	224 (1.4)	10 (2.1)	232 (3.2)!	0 (0.0)	*** (***)
Mississippi	96 (1.3)	198 (1.6)	4 (1.3)	199 (4.2)!	0 (0.0)	*** (***)
Missouri	91 (1.8)	218 (1.7)	9 (1.8)	219 (5.0)!	0 (0.0)	*** (***)
Nebraska	91 (2.1)	220 (1.6)	9 (2.1)	236 (5.5)!	0 (0.0)	*** (***)
New Hampshire	92 (1.7)	226 (1.3)	8 (1.5)	227 (5.0)!	1 (0.7)	*** (***)
New Jersey	90 (2.7)	225 (1.5)	10 (2.6)	237 (5.7)!	1 (0.5)	*** (***)
New Mexico	92 (2.3)	207 (1.5)	8 (2.3)	207 (8.3)!	0 (0.0)	*** (***)
New York	91 (2.0)	215 (1.5)	9 (2.0)	217 (5.0)!	0 (0.0)	*** (***)
North Carolina	91 (1.7)	209 (1.2)	9 (1.5)	205 (3.6)	0 (0.4)	*** (***)
North Dakota	89 (2.9)	225 (0.9)	11 (2.9)	222 (2.8)!	0 (0.0)	*** (***)
Ohio	92 (1.7)	214 (1.3)	8 (1.6)	211 (4.4)!	0 (0.2)	*** (***)
Oklahoma	94 (1.5)	217 (1.2)	6 (1.5)	216 (4.3)!	0 (0.0)	*** (***)
Pennsylvania	95 (1.3)	221 (1.7)	5 (1.3)	218 (5.8)!	0 (0.0)	*** (***)
Rhode Island	95 (1.2)	212 (1.8)	4 (1.1)	208 (7.4)!	1 (0.5)	*** (***)
South Carolina	93 (1.7)	208 (1.2)	7 (1.7)	205 (5.6)!	0 (0.0)	*** (***)
Tennessee	93 (1.9)	207 (1.6)	7 (1.9)	210 (4.4)!	0 (0.0)	*** (***)
Texas	89 (1.7)	214 (1.5)	11 (1.7)	220 (4.4)	0 (0.0)	*** (***)
Utah	94 (1.4)	220 (1.2)	6 (1.4)	218 (5.6)!	0 (0.0)	*** (***)
Virginia	95 (1.1)	217 (1.7)	4 (1.0)	201 (5.6)!	0 (0.3)	*** (***)
West Virginia	93 (1.9)	210 (1.3)	7 (1.9)	203 (3.7)!	0 (0.0)	*** (***)
Wisconsin	87 (2.3)	225 (1.5)	13 (2.3)	232 (3.9)	0 (0.0)	*** (***)
Wyoming	94 (1.6)	222 (1.2)	6 (1.6)	216 (3.7)!	0 (0.0)	*** (***)
TERRITORY						
Guam	86 (0.9)	190 (1.2)	12 (0.8)	174 (3.9)	2 (0.3)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In 1990, to determine the emphasis placed on Numbers and Operations, teachers were asked about five topics at grade 8: whole number operations, common fractions, decimal fractions, ratio or proportion and percent. In 1992, at both grades 4 and 8, teachers were simply asked about the emphasis placed on Numbers and Operations. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 8.10 | Teachers' Reports on the Instructional Emphasis Placed on Numbers and Operations (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Numbers and Operations Proficiency	Percentage of Students	Numbers and Operations Proficiency	Percentage of Students	Numbers and Operations Proficiency
NATION	76 (1.9)	269 (1.2)	21 (1.8)	276 (2.0)	4 (0.8)	283 (6.9)!
Northeast	79 (4.3)	272 (3.8)	18 (3.9)	264 (2.8)!	4 (1.3)	*** (***)
Southeast	83 (4.6)	265 (1.4)	14 (3.7)	269 (4.3)!	3 (1.9)	267(14.9)!
Central	69 (3.0)	275 (2.8)	26 (3.7)	285 (4.6)	5 (2.0)	*** (***)
West	72 (3.0)	268 (1.9)	25 (2.8)	278 (2.7)	3 (1.0)	*** (***)
STATES						
Alabama	79 (2.7)	257 (1.4)	20 (2.7)	264 (3.6)	1 (0.6)	*** (***)
Arizona	79 (2.3)	266 (1.5)	19 (2.1)	275 (3.0)	2 (0.8)	*** (***)
Arkansas	78 (3.1)	259 (1.5)	19 (2.8)	273 (3.0)	3 (0.9)	283 (4.1)!
California	67 (2.7)	262 (2.1)	28 (2.5)	266 (3.2)	5 (1.5)	289 (4.4)!
Colorado	69 (3.0)	271 (1.4)	28 (2.9)	276 (2.2)	3 (0.8)	297 (8.3)!
Connecticut	64 (3.2)	272 (1.6)	29 (2.9)	285 (2.6)	7 (1.5)	300 (7.3)!
Delaware	71 (0.8)	262 (1.1)	23 (0.7)	275 (1.8)	6 (0.5)	295 (3.3)
Dist. Columbia	59 (1.2)	240 (1.2)	36 (1.1)	249 (1.9)	5 (0.6)	243 (5.8)
Florida	76 (2.8)	262 (1.4)	21 (2.6)	269 (2.9)	3 (0.7)	290 (8.1)!
Georgia	80 (3.0)	262 (1.2)	18 (3.0)	271 (3.6)	2 (0.7)	*** (***)
Hawaii	64 (0.8)	257 (0.9)	31 (0.8)	269 (1.9)	5 (0.3)	282 (4.5)
Idaho	69 (2.4)	274 (0.9)	29 (2.4)	282 (1.9)	2 (1.0)	*** (***)
Indiana	80 (2.8)	270 (1.6)	18 (2.4)	279 (3.8)	2 (0.8)	*** (***)
Iowa	73 (3.7)	284 (1.2)	22 (3.1)	286 (2.0)	5 (1.6)	307 (5.4)!
Kentucky	77 (2.8)	267 (1.4)	21 (2.6)	268 (2.5)	3 (0.9)	285 (9.6)!
Louisiana	81 (3.1)	256 (1.6)	17 (3.1)	264 (4.5)	2 (0.8)	*** (***)
Maine	67 (3.2)	278 (1.5)	30 (3.2)	283 (2.1)	3 (1.1)	285 (5.8)!
Maryland	57 (3.7)	262 (1.9)	36 (3.0)	274 (2.6)	7 (1.3)	305 (2.9)
Massachusetts	77 (2.8)	274 (1.4)	19 (2.3)	280 (3.0)	4 (1.2)	302 (6.8)!
Michigan	63 (3.8)	267 (1.7)	33 (3.6)	272 (3.5)	4 (1.1)	292 (8.5)!
Minnesota	74 (3.1)	279 (1.3)	21 (2.9)	288 (3.1)	5 (1.5)	303 (6.8)!
Mississippi	86 (2.7)	255 (1.3)	14 (2.7)	261 (4.1)	0 (0.0)	*** (***)
Missouri	68 (3.4)	270 (1.4)	30 (3.3)	277 (1.9)	2 (0.7)	*** (***)
Nebraska	71 (4.1)	278 (1.2)	27 (3.8)	281 (2.6)	3 (1.0)	*** (***)
New Hampshire	71 (2.9)	277 (1.1)	26 (2.5)	285 (2.3)	3 (1.1)	301 (5.2)!
New Jersey	65 (3.7)	271 (2.2)	32 (3.5)	283 (4.1)	3 (1.0)	295 (5.6)!
New Mexico	75 (2.5)	262 (1.1)	23 (2.5)	263 (2.7)	3 (0.6)	301 (6.5)!
New York	72 (3.3)	267 (2.5)	25 (3.1)	276 (3.5)	4 (1.0)	297(11.2)!
North Carolina	72 (2.7)	257 (1.6)	24 (2.7)	266 (2.5)	4 (0.8)	295 (6.2)!
North Dakota	73 (3.5)	285 (1.4)	22 (3.3)	288 (1.8)	5 (1.0)	290 (3.1)
Ohio	76 (3.1)	272 (2.0)	22 (3.2)	275 (3.8)	2 (0.5)	*** (***)
Oklahoma	82 (3.0)	269 (1.5)	17 (2.9)	280 (3.0)	1 (0.5)	*** (***)
Pennsylvania	72 (2.6)	270 (1.5)	25 (2.4)	278 (3.6)	3 (0.8)	306 (5.2)!
Rhode Island	65 (0.9)	265 (1.3)	26 (0.8)	274 (2.1)	9 (0.7)	286 (3.2)
South Carolina	70 (2.7)	261 (1.3)	25 (2.5)	274 (2.4)	5 (1.2)	295 (7.0)!
Tennessee	81 (3.0)	262 (1.6)	18 (2.9)	271 (2.9)	1 (0.5)	*** (***)
Texas	70 (2.7)	264 (1.7)	26 (2.6)	270 (2.9)	4 (1.0)	295 (5.9)!
Utah	82 (1.5)	274 (1.0)	17 (1.4)	283 (2.3)	2 (0.5)	*** (***)
Virginia	79 (2.4)	270 (1.2)	18 (2.3)	276 (3.4)	3 (0.6)	312 (4.3)
West Virginia	83 (2.6)	261 (1.3)	16 (2.5)	271 (3.1)	1 (0.3)	*** (***)
Wisconsin	66 (3.9)	279 (1.8)	31 (3.7)	281 (2.1)	3 (1.0)	293 (7.3)!
Wyoming	73 (2.9)	274 (1.1)	22 (2.4)	281 (2.1)	5 (1.4)	290 (9.0)!
TERRITORIES						
Guam	86 (0.7)	240 (1.3)	14 (0.7)	243 (4.6)	0 (0.0)	*** (***)
Virgin Islands	71 (1.1)	228 (1.0)	24 (1.0)	228 (1.6)	5 (0.5)	265 (4.4)

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TABLE 8.11 Teachers' Reports on the Instructional Emphasis Placed on Measurement, Grades 4 and 8

	Assessment Years	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
		Percent of Students	Measurement Proficiency	Percent of Students	Measurement Proficiency	Percent of Students	Measurement Proficiency
Grade 4							
Nation	**1992**	13 (1.5)	215 (2.2)	81 (1.6)>	219 (1.2)>	6 (1.1)	217 (3.1)
	1990	19 (3.1)	214 (3.3)	70 (3.9)	214 (1.1)	12 (2.8)	217 (2.9)
High ability	**1992**	13 (5.3)	244 (6.1)	78 (6.9)	237 (3.3)	9 (4.9)	238 (8.7)
	1990	17 (6.2)	238(11.5)	71 (9.7)	238 (4.9)	12 (8.1)	224(13.4)
Average ability	**1992**	13 (1.8)	216 (3.1)	85 (1.9)	222 (1.4)>	2 (0.8)<	219 (4.2)
	1990	16 (4.4)	208 (5.6)	74 (5.1)	215 (2.2)	10 (3.1)	226 (4.6)
Low ability	**1992**	9 (2.7)	192 (6.9)	81 (3.8)	196 (2.3)	10 (2.8)	200 (6.0)
	1990	12 (4.5)	195(10.3)	76 (7.3)	204 (4.2)	12 (6.4)	200(11.6)
Mixed ability	**1992**	16 (3.1)	212 (2.5)	76 (3.7)	218 (1.6)>	8 (2.7)	218 (3.6)
	1990	19 (6.0)	213 (6.7)	66 (6.1)	212 (1.7)	15 (4.3)	214 (4.5)
Grade 8							
Nation	**1992**	16 (1.8)	260 (2.0)	69 (1.9)>	267 (1.3)>	16 (1.5)<	283 (2.4)
	1990	17 (2.8)	255 (3.5)	50 (3.6)	260 (1.9)	33 (3.7)	274 (3.1)
High ability	**1992**	10 (2.2)	290 (4.7)	58 (3.2)>	300 (2.3)>	33 (3.2)<	302 (2.8)
	1990	14 (4.1)	270 (7.2)	32 (5.0)	290 (3.1)	54 (6.2)	295 (3.0)
Average ability	**1992**	18 (2.5)	260 (3.7)	72 (2.7)>	266 (1.4)>	10 (1.5)<	274 (3.4)
	1990	15 (3.6)	259 (5.7)	58 (5.0)	257 (2.6)	27 (4.3)	268 (4.6)
Low ability	**1992**	16 (3.8)	245 (7.3)	74 (5.4)>	244 (2.3)	10 (3.0)<	247 (7.1)
	1990	20 (4.8)	239 (4.4)	52 (6.5)	243 (4.3)	28 (6.3)	249 (6.2)
Mixed ability	**1992**	17 (3.8)	256 (3.3)	72 (3.8)	262 (2.3)	11 (2.7)	266 (3.7)
	1990	22 (8.0)	251 (7.7)	54 (9.0)	258 (4.5)	25 (7.2)	259 (4.2)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 8.12 | Teachers' Reports on the Instructional Emphasis Placed on Measurement

PUBLIC SCHOOLS	Grade 4 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Measurement Proficiency	Percentage of Students	Measurement Proficiency	Percentage of Students	Measurement Proficiency
NATION	14 (1.7)	217 (2.6)	80 (1.9)	223 (1.5)	6 (1.2)	221 (3.8)!
Northeast	11 (2.4)	212 (6.2)!	81 (3.8)	227 (3.3)	8 (3.3)	*** (***)
Southeast	23 (4.6)	215 (2.7)!	75 (4.7)	213 (2.9)	1 (0.7)	*** (***)
Central	6 (2.1)	238 (7.7)!	88 (1.9)	231 (2.8)	6 (2.1)	*** (***)
West	14 (3.3)	214 (4.7)!	77 (3.5)	224 (2.7)	10 (3.1)	216 (5.7)!
STATES						
Alabama	23 (3.2)	207 (2.8)	75 (3.3)	216 (2.1)	1 (0.8)	*** (***)
Arizona	8 (1.6)	219 (5.1)	83 (1.8)	219 (1.3)	8 (1.4)	221 (3.7)
Arkansas	12 (1.7)	209 (4.7)	84 (2.0)	217 (1.7)	3 (1.2)	205 (5.9)!
California	13 (2.2)	212 (4.4)	80 (2.5)	211 (2.0)	8 (1.7)	195 (6.7)!
Colorado	16 (2.3)	229 (3.4)	82 (2.2)	225 (1.3)	2 (0.7)	*** (***)
Connecticut	14 (2.6)	227 (4.0)	81 (2.5)	233 (1.4)	5 (1.3)	223 (5.1)!
Delaware	11 (0.6)	229 (2.8)	80 (0.8)	220 (1.1)	8 (0.6)	215 (4.4)
Dist. Columbia	35 (0.9)	193 (1.6)	63 (1.0)	192 (1.2)	2 (0.6)	*** (***)
Florida	19 (2.4)	224 (2.9)	78 (2.6)	218 (1.8)	3 (0.9)	194 (8.5)!
Georgia	24 (2.8)	219 (3.5)	74 (2.9)	218 (1.9)	1 (0.6)	*** (***)
Hawaii	17 (2.4)	221 (2.9)	81 (2.4)	215 (1.8)	2 (0.6)	*** (***)
Idaho	8 (1.8)	230 (2.9)!	87 (2.2)	227 (1.2)	4 (1.3)	227 (6.2)!
Indiana	12 (2.5)	226 (4.6)!	82 (2.8)	226 (1.5)	6 (1.6)	231 (3.8)!
Iowa	11 (2.2)	233 (3.0)!	85 (2.7)	235 (1.5)	4 (1.1)	230 (6.1)!
Kentucky	21 (3.3)	217 (2.4)	77 (3.4)	219 (1.5)	2 (1.1)	*** (***)
Louisiana	24 (3.0)	201 (3.9)	74 (3.0)	211 (1.9)	2 (0.8)	191(12.5)!
Maine	13 (2.3)	242 (3.2)	84 (2.6)	235 (1.5)	3 (1.2)	*** (***)
Maryland	18 (2.3)	226 (4.2)	78 (2.5)	221 (2.0)	4 (1.2)	224 (7.8)!
Massachusetts	15 (2.3)	227 (3.7)	81 (2.2)	231 (1.7)	3 (1.2)	220 (5.5)!
Michigan	18 (2.8)	224 (4.9)	76 (3.1)	226 (2.1)	6 (1.9)	221 (6.6)!
Minnesota	6 (1.7)	244 (4.2)!	87 (1.9)	233 (1.6)	7 (1.2)	224 (5.0)
Mississippi	24 (2.9)	204 (2.5)	74 (3.0)	206 (1.9)	2 (0.8)	*** (***)
Missouri	23 (3.0)	226 (4.6)	75 (2.9)	228 (1.9)	2 (0.7)	*** (***)
Nebraska	15 (2.9)	238 (3.8)	77 (3.4)	229 (1.9)	7 (1.8)	226 (4.1)!
New Hampshire	9 (2.0)	236 (4.0)!	85 (2.4)	235 (1.5)	6 (1.6)	231 (3.8)!
New Jersey	18 (2.9)	231 (4.4)	81 (3.0)	232 (2.1)	1 (0.6)	*** (***)
New Mexico	13 (2.4)	216 (3.6)	83 (2.7)	218 (1.8)	4 (1.1)	208 (3.8)!
New York	23 (2.4)	222 (3.6)	72 (2.5)	221 (1.9)	5 (1.1)	211 (8.7)!
North Carolina	18 (2.3)	214 (2.9)	78 (2.7)	217 (1.5)	4 (1.3)	215 (5.4)!
North Dakota	9 (2.4)	237 (3.2)!	82 (3.0)	234 (1.4)	9 (2.4)	235 (4.3)!
Ohio	12 (2.0)	215 (3.8)	82 (2.5)	224 (1.5)	6 (1.9)	218 (9.7)!
Oklahoma	9 (2.2)	221 (4.0)!	84 (2.6)	225 (1.3)	7 (1.6)	226 (3.0)!
Pennsylvania	13 (1.7)	232 (4.0)	81 (2.1)	228 (1.7)	6 (1.6)	230 (6.9)
Rhode Island	8 (1.8)	216 (5.9)!	82 (2.3)	219 (2.0)	9 (1.8)	211 (3.8)!
South Carolina	38 (3.5)	219 (2.1)	61 (3.5)	218 (2.0)	0 (0.2)	*** (***)
Tennessee	17 (2.2)	217 (3.4)	80 (2.4)	213 (1.4)	3 (0.9)	212 (7.5)!
Texas	31 (3.0)	219 (2.3)	68 (2.9)	223 (2.2)	1 (0.7)	*** (***)
Utah	16 (2.2)	232 (2.7)	80 (2.6)	229 (1.1)	3 (1.1)	235 (6.1)!
Virginia	16 (2.3)	224 (3.8)	77 (2.5)	224 (1.6)	7 (1.5)	220 (5.8)!
West Virginia	21 (2.4)	228 (3.1)	75 (2.9)	221 (1.4)	4 (1.3)	220 (4.8)!
Wisconsin	14 (2.4)	234 (3.4)	81 (2.9)	234 (1.4)	5 (1.7)	232 (3.9)
Wyoming	12 (2.2)	230 (3.4)	83 (2.4)	230 (1.3)	5 (1.6)	227 (6.5)!
TERRITORY						
Guam	24 (1.0)	194 (1.9)	66 (1.0)	192 (1.7)	10 (0.8)	181 (3.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 8.12 | Teachers' Reports on the Instructional Emphasis Placed on Measurement (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Measurement Proficiency	Percentage of Students	Measurement Proficiency	Percentage of Students	Measurement Proficiency
NATION	16 (2.0)	255 (3.0)	69 (2.1)	265 (1.9)	15 (1.6)	281 (3.4)
Northeast	22 (5.5)	263 (4.6)!	62 (4.8)	264 (5.1)	16 (3.3)	277 (9.8)!
Southeast	17 (4.2)	244 (4.3)!	74 (4.9)	260 (2.5)	9 (2.6)	262 (5.4)!
Central	14 (3.8)	261 (3.6)!	62 (5.2)	273 (3.9)	25 (4.5)	282 (5.1)
West	13 (2.6)	254 (4.5)!	74 (3.1)	266 (3.6)	13 (3.0)	292 (6.9)!
STATES						
Alabama	30 (3.8)	232 (5.5)	58 (3.5)	247 (2.3)	12 (2.1)	269 (7.1)
Arizona	15 (2.4)	263 (4.1)	62 (2.9)»	261 (2.7)	23 (2.5)«	271 (4.6)
Arkansas	15 (2.6)	245 (4.2)	66 (3.5)	250 (1.6)	19 (2.2)	264 (4.5)
California	14 (2.1)	248 (4.7)	70 (2.4)»	257 (2.5) >	16 (1.8) <	282 (6.1)
Colorado	10 (1.7)	277 (4.0) >	66 (2.8) >	269 (1.9) >	25 (2.6)«	279 (3.8)
Connecticut	16 (2.0) <	265 (4.4)	68 (2.6)»	272 (2.1) >	17 (2.0) <	293 (6.6)
Delaware	13 (0.6)«	248 (3.1)	74 (0.7)»	255 (1.5)	13 (0.7)«	289 (3.6)»
Dist. Columbia	18 (0.9)«	222 (4.7)	76 (0.9)»	222 (1.6)	6 (0.8)«	261(11.0)
Florida	15 (2.3)	243 (5.4)	68 (2.9)»	254 (1.9)	17 (2.3) <	270 (5.2)
Georgia	28 (2.7)	243 (2.5)	62 (2.7) >	254 (2.8)	11 (1.9) <	271 (6.3)
Hawaii	12 (0.7)	251 (2.7)	75 (0.9)»	252 (1.5)	12 (0.6)«	276 (3.5)»
Idaho	10 (1.2)	271 (5.0)	71 (2.4)»	276 (1.9)»	19 (2.6)«	281 (2.5)
Indiana	10 (2.1)	264 (4.0)	72 (3.1)»	266 (2.1)	18 (2.1)«	282 (6.0)
Iowa	11 (2.6)	285 (4.6)!	70 (3.5) >	284 (1.9)»	19 (2.9)	301 (3.7) >
Kentucky	20 (3.2)	259 (3.7)	65 (3.5) >	259 (1.7)»	15 (2.6) <	264 (4.9)
Louisiana	12 (1.9)	242 (5.5)	71 (3.8) >	241 (2.3)	17 (3.3) <	249 (5.2)!
Maine	20 (3.7)	278 (3.6)	72 (3.6)	280 (2.3)	8 (1.5)	300 (4.6)
Maryland	15 (2.3)	247 (6.2)	64 (2.5)»	259 (2.2) >	21 (2.4)«	286 (5.6)
Massachusetts	14 (2.0)	278 (4.6)	63 (3.1)	264 (2.1)	23 (2.6)	280 (4.0)
Michigan	20 (3.0)	262 (5.0)	65 (3.0) >	264 (2.5)	15 (2.1)«	276 (5.9)
Minnesota	13 (2.5)	279 (5.4)!	65 (3.5)»	283 (2.1)»	22 (2.9)«	292 (3.4)»
Mississippi	30 (3.9)	234 (3.7)	61 (3.9)	234 (2.5)	9 (2.0)	261 ([illegible])!
Missouri	11 (2.2)	267 (4.7)!	72 (2.3)	268 (1.7)	17 (1.9)	290 (4.4)
Nebraska	7 (2.0)	265 (4.6)!	73 (2.9)»	277 (2.0)	19 (2.7)«	287 (4.4) >
New Hampshire	10 (1.5) <	271 (3.2)	67 (3.2)»	278 (2.2) >	24 (2.8)«	288 (3.0) >
New Jersey	19 (3.2)	254 (4.3)	67 (3.5)»	267 (3.0)	14 (2.6)«	292 (5.9)
New Mexico	13 (1.7)	261 (3.5) >	69 (2.8)»	256 (1.7)	18 (2.5)«	266 (4.3)
New York	8 (1.6)	255(10.4)!	70 (2.9)»	260 (3.0)	21 (3.2)«	272 (6.7)
North Carolina	14 (2.1)	248 (4.9)	71 (2.7)»	251 (1.9)»	15 (1.9)«	272 (4.3) >
North Dakota	15 (3.0)	287 (4.1)!	77 (3.7)»	283 (2.0)	8 (2.4)«	307 (7.3)! >
Ohio	14 (2.6)	260 (7.0)!	68 (3.6)»	265 (3.2)	18 (2.5) <	285 (4.7)
Oklahoma	17 (3.1)	271 (6.1)	67 (3.5) >	262 (2.4)	16 (2.8)«	279 (4.6) >
Pennsylvania	11 (2.3)	257 (7.2)!	64 (3.0)»	267 (2.0)	25 (2.7)«	289 (4.0)
Rhode Island	12 (0.8)	252 (3.7)	66 (0.9)»	259 (1.6)	22 (0.8)«	280 (2.7)»
South Carolina	40 (3.4)	248 (2.2)	52 (3.1)	256 (2.4)	8 (1.3)	302 (5.0)
Tennessee	23 (3.2)	248 (3.4)	66 (3.3)	252 (2.4)	11 (1.6)	271 (6.7)
Texas	23 (3.2)	250 (3.6)	63 (3.2)	260 (2.0) >	13 (2.0)	284 (7.7) >
Utah	9 (1.3)	267 (4.6)	65 (2.0)	272 (1.9)	26 (1.7)	283 (2.3)
Virginia	6 (1.4)	261 (7.0)!	65 (2.8)»	260 (2.0) >	29 (2.6) <	277 (3.2)
West Virginia	12 (2.0)	255 (3.9)	72 (2.9)»	255 (1.8)	16 (2.3)«	266 (3.5)
Wisconsin	14 (3.3)	276 (9.3)!	74 (3.5)»	279 (2.2) >	12 (2.0)«	287 (4.8)
Wyoming	8 (1.4)	274 (3.7)	67 (2.3)»	274 (1.3)	25 (1.6)«	289 (2.7)»
TERRITORIES						
Guam	25 (1.0)	242 (2.9)	64 (1.1)»	226 (2.0)	11 (0.7)«	214 (3.8)«
Virgin Islands	9 (0.6)«	210 (4.8)	71 (0.8)»	209 (1.7)	19 (0.7)	216 (3.2)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 8.12 | Teachers' Reports on the Instructional Emphasis Placed on Measurement (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Measurement Proficiency	Percentage of Students	Measurement Proficiency	Percentage of Students	Measurement Proficiency
NATION	17 (3.0)	250 (4.8)	50 (3.9)	255 (2.4)	33 (4.0)	272 (3.9)
Northeast	32(11.5)	257(10.3)!	35(10.1)	261 (3.2)!	34 (8.3)	283 (5.3)!
Southeast	13 (6.8)	242 (6.2)!	65 (9.3)	250 (3.9)!	22 (8.1)	263 (9.1)!
Central	17 (5.7)	246(10.8)!	41 (8.2)	260 (4.9)	42 (9.7)	269 (6.7)!
West	11 (2.8)	251 (7.1)!	53 (4.8)	254 (4.4)	36 (5.3)	274 (6.6)
STATES						
Alabama	24 (3.3)	245 (3.2)	56 (3.5)	246 (1.7)	19 (3.0)	260 (3.9)
Arizona	10 (1.6)	250 (3.7)	46 (2.8)	252 (2.3)	43 (2.7)	265 (2.2)
Arkansas	17 (2.7)	249 (4.0)	60 (3.4)	253 (1.9)	24 (2.9)	265 (3.6)
California	21 (2.5)	245 (3.3)	54 (2.8)	247 (2.0)	25 (2.7)	267 (3.3)
Colorado	7 (1.2)	258 (4.8)	50 (3.8)	260 (1.9)	43 (3.5)	271 (2.3)
Connecticut	28 (3.3)	263 (3.7)	47 (2.9)	263 (2.1)	26 (2.3)	286 (3.2)
Delaware	20 (1.1)	253 (1.9)	50 (1.4)	254 (2.2)	30 (1.1)	270 (2.0)
Dist. Columbia	25 (0.8)	219 (2.5)	56 (1.1)	222 (1.7)	20 (0.9)	237 (2.8)
Florida	19 (2.3)	243 (2.8)	52 (2.6)	249 (2.0)	28 (2.5)	266 (3.2)
Georgia	33 (2.6)	244 (2.1)	47 (2.8)	253 (2.2)	20 (2.4)	264 (4.5)
Hawaii	15 (0.8)	240 (3.1)	49 (1.0)	248 (1.4)	36 (1.0)	257 (1.8)
Idaho	10 (1.1)	266 (3.8)	49 (1.5)	265 (1.3)	41 (1.2)	275 (1.9)
Indiana	9 (1.9)	254 (4.0)!	51 (3.2)	258 (2.5)	41 (3.1)	276 (3.3)
Iowa	14 (2.8)	271 (4.8)!	54 (4.7)	272 (2.4)	32 (4.1)	284 (3.5)
Kentucky	19 (3.0)	258 (3.7)	51 (3.7)	248 (2.3)	29 (3.5)	261 (2.5)
Louisiana	13 (2.3)	235 (4.6)	55 (3.6)	241 (2.0)	33 (3.8)	245 (2.9)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	21 (2.6)	239 (3.8)	42 (2.9)	249 (2.2)	37 (2.7)	277 (3.2)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	12 (2.2)	251 (5.0)	50 (3.6)	256 (2.3)	38 (3.4)	270 (2.6)
Minnesota	12 (2.2)	270 (4.2)	41 (3.3)	269 (2.3)	47 (3.6)	275 (1.8)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	12 (2.3)	277 (4.1)	49 (3.4)	273 (2.6)	39 (3.1)	273 (2.4)
New Hampshire	15 (0.9)	264 (2.8)	49 (1.3)	270 (1.8)	36 (1.1)	276 (2.2)
New Jersey	24 (3.1)	258 (3.6)	45 (2.7)	261 (2.1)	30 (3.1)	285 (4.0)
New Mexico	16 (1.1)	246 (3.1)	51 (1.5)	252 (1.7)	33 (1.5)	261 (1.7)
New York	13 (2.3)	257 (5.7)	46 (3.3)	254 (3.3)	40 (3.5)	255 (3.0)
North Carolina	17 (2.3)	232 (3.5)	52 (2.9)	239 (2.0)	31 (2.7)	255 (3.2)
North Dakota	13 (2.6)	275 (4.3)!	53 (3.4)	279 (2.2)	35 (3.3)	283 (3.1)
Ohio	17 (2.8)	245 (4.0)	50 (3.0)	259 (2.1)	33 (3.1)	274 (2.4)
Oklahoma	11 (2.5)	261 (3.5)!	50 (4.2)	254 (1.8)	39 (3.6)	263 (2.9)
Pennsylvania	15 (2.2)	252 (3.4)	42 (2.9)	260 (2.5)!	43 (2.9)	275 (3.7)
Rhode Island	13 (0.5)	251 (2.4)	47 (1.4)	254 (1.3)	40 (1.5)	264 (1.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	29 (3.7)	247 (2.7)	52 (3.1)	250 (2.1)	19 (2.4)	258 (3.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	12 (2.0)	247 (4.0)	47 (2.9)	252 (2.0)	41 (3.1)	271 (2.9)
West Virginia	13 (2.4)	243 (3.2)!	47 (3.9)	249 (1.6)	41 (3.7)	261 (2.6)
Wisconsin	11 (2.5)	266 (4.4)!	45 (3.7)	270 (2.4)	44 (4.4)	280 (2.3)
Wyoming	7 (0.4)	266 (3.1)	42 (1.8)	270 (1.8)	51 (1.7)	272 (1.5)
TERRITORIES						
Guam	24 (0.7)	235 (2.1)	47 (0.8)	225 (1.8)	29 (0.8)	232 (2.2)
Virgin Islands	35 (0.7)	218 (2.9)	45 (1.0)	217 (2.9)	19 (0.8)	215 (3.7)

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TABLE 8.13 Teachers' Reports on the Instructional Emphasis Placed on Geometry, Grades 4 and 8

	Assessment Years	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
		Percent of Students	Geometry Proficiency	Percent of Students	Geometry Proficiency	Percent of Students	Geometry Proficiency
Grade 4							
Nation	**1992**	6 (0.9)	211 (4.1)	71 (2.6)>	219 (1.1)>	23 (2.5)<	216 (1.7)
	1990	8 (1.8)	205 (4.1)	58 (3.3)	215 (1.1)	34 (3.3)	215 (2.1)
High ability	**1992**	8 (4.4)	238 (8.0)	71 (7.3)	237 (2.2)	21 (6.0)	239 (12.0)
	1990	12 (4.7)	236(16.8)	60(10.1)	235 (5.3)	28(11.1)	239 (10.8)
Average ability	**1992**	6 (1.5)	210 (4.4)	73 (3.8)>	224 (1.5)>	20 (3.6)<	218 (2.3)
	1990	7 (3.1)	196 (5.4)	58 (5.1)	214 (2.2)	35 (5.0)	220 (2.8)
Low ability	**1992**	4 (1.6)	186 (7.2)	67 (4.7)	195 (3.3)	29 (4.7)	200 (3.8)
	1990	5 (3.5)	202(18.5)	60 (8.4)	203 (5.3)	35 (8.1)	200 (5.4)
Mixed ability	**1992**	6 (1.8)	210 (6.6)	69 (3.5)	218 (1.5)	25 (3.9)	216 (2.1)
	1990	5 (1.9)	198 (7.0)	56 (6.3)	215 (2.4)	39 (6.2)	211 (2.4)
Grade 8							
Nation	**1992**	18 (2.4)	269 (2.3)	71 (2.6)>	268 (1.3)>	11 (1.4)<	272 (1.9)
	1990	28 (3.6)	262 (2.7)	51 (4.0)	263 (1.7)	22 (3.1)	268 (4.9)
High ability	**1992**	17 (2.8)	293 (3.3)	60 (3.8)>	301 (2.4)>	23 (2.6)	300 (3.0)
	1990	23 (5.0)	280 (5.0)	42 (5.6)	285 (3.6)	35 (5.6)	299 (4.1)
Average ability	**1992**	20 (3.7)	268 (3.4)	74 (3.9)>	265 (1.6)	6 (1.4)<	265 (4.6)
	1990	24 (4.9)	261 (6.1)	56 (5.0)	262 (2.2)	19 (4.6)	254 (5.8)
Low ability	**1992**	15 (3.8)	246 (5.9)	77 (4.0)>	246 (2.5)	8 (1.9)	219 (3.9)<
	1990	30 (6.5)	240 (4.0)	46 (6.6)	250 (5.1)	24 (6.4)	238 (5.9)
Mixed ability	**1992**	16 (3.8)	259 (2.5)	74 (4.2)	264 (1.8)	10 (3.0)	244 (8.8)
	1990	36 (8.4)	263 (4.2)	54 (8.1)	255 (4.6)	10 (3.3)	243 (7.8)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 8.14 | Teachers' Reports on the Instructional Emphasis Placed on Geometry

PUBLIC SCHOOLS	Grade 4 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Geometry Proficiency	Percentage of Students	Geometry Proficiency	Percentage of Students	Geometry Proficiency
NATION	6 (1.1)	212 (5.0)	72 (2.9)	221 (1.2)	22 (2.8)	217 (1.9)
Northeast	4 (2.4)	*** (***)	78 (3.3)	224 (3.3)	18 (2.3)	213 (3.8)
Southeast	12 (3.2)	210 (7.8)!	73 (4.3)	212 (2.3)	15 (4.7)	208 (3.7)!
Central	1 (0.7)	*** (***)	66 (8.5)	228 (1.7)	33 (8.5)	218 (2.9)!
West	6 (2.1)	211 (5.9)!	71 (4.0)	222 (2.1)	23 (3.9)	224 (3.7)!
STATES						
Alabama	10 (2.3)	205 (3.3)!	73 (3.5)	211 (1.7)	17 (3.1)	208 (3.1)
Arizona	2 (0.6)	*** (***)	60 (3.4)	221 (1.4)	38 (3.5)	217 (1.9)
Arkansas	6 (2.1)	205 (3.8)!	71 (3.1)	213 (1.4)	23 (3.1)	209 (3.1)
California	8 (1.6)	209 (4.3)!	69 (3.1)	215 (1.9)	23 (3.2)	208 (3.6)
Colorado	6 (1.6)	227 (4.6)!	78 (2.6)	228 (1.1)	16 (2.3)	221 (2.4)
Connecticut	9 (1.9)	237 (3.6)!	76 (2.4)	231 (1.7)	15 (2.1)	225 (3.4)
Delaware	8 (0.5)	232 (3.0)	67 (1.0)	221 (1.3)	25 (0.9)	211 (1.6)
Dist. Columbia	30 (0.7)	200 (1.3)	63 (0.8)	197 (1.2)	7 (0.7)	191 (4.1)
Florida	7 (1.6)	219 (3.5)!	73 (3.0)	217 (1.3)	19 (2.6)	211 (3.4)
Georgia	12 (2.5)	215 (3.8)!	76 (3.1)	217 (1.6)	12 (2.3)	209 (2.6)
Hawaii	12 (1.8)	227 (3.4)	76 (2.2)	218 (1.4)	11 (1.8)	207 (3.5)
Idaho	4 (1.4)	226 (3.9)!	67 (3.2)	226 (1.2)	29 (3.0)	226 (2.4)
Indiana	3 (1.0)	*** (***)	72 (2.6)	222 (1.4)	25 (2.3)	223 (2.0)
Iowa	3 (1.2)	237 (3.3)!	60 (3.8)	229 (1.5)	38 (3.6)	229 (2.0)
Kentucky	9 (2.1)	216 (3.8)!	75 (3.2)	215 (1.4)	16 (2.6)	210 (2.6)
Louisiana	10 (1.9)	207 (4.4)	77 (2.5)	208 (1.7)	13 (2.4)	196 (3.7)
Maine	8 (1.9)	237 (3.5)!	78 (3.0)	237 (1.1)	14 (2.7)	231 (2.1)
Maryland	10 (1.8)	227 (3.9)	80 (2.3)	221 (1.6)	9 (1.6)	209 (5.6)
Massachusetts	7 (2.1)	243 (3.9)!	67 (3.1)	230 (1.6)	26 (3.3)	224 (2.4)
Michigan	10 (2.2)	224 (4.6)!	68 (3.7)	222 (2.1)	22 (3.5)	222 (3.3)
Minnesota	4 (1.3)	237 (6.1)!	68 (3.5)	231 (1.4)	28 (3.6)	225 (2.3)
Mississippi	12 (2.5)	200 (3.2)!	77 (3.1)	204 (1.2)	11 (2.0)	191 (4.4)
Missouri	10 (2.6)	223 (6.8)!	72 (3.3)	224 (1.4)	18 (2.5)	226 (2.7)
Nebraska	4 (1.7)	248 (5.3)!	64 (3.7)	229 (1.7)	32 (3.7)	226 (1.5)
New Hampshire	4 (0.9)	234 (6.0)!	77 (2.8)	235 (1.2)	19 (2.8)	228 (2.6)
New Jersey	11 (2.2)	226 (4.7)!	79 (2.9)	227 (1.5)	10 (2.0)	227 (4.2)
New Mexico	6 (1.4)	220 (7.7)!	67 (3.7)	222 (1.5)	26 (3.4)	214 (2.3)
New York	6 (1.4)	210 (3.6)!	72 (2.8)	220 (1.3)	22 (2.6)	212 (2.5)
North Carolina	12 (2.1)	219 (3.4)	76 (2.7)	217 (1.6)	12 (2.2)	209 (2.3)
North Dakota	4 (1.1)	235 (4.0)!	64 (4.0)	229 (1.2)	32 (4.1)	229 (2.0)
Ohio	5 (1.5)	215 (6.7)!	70 (3.5)	223 (1.5)	25 (3.5)	216 (2.8)
Oklahoma	4 (1.6)	216 (4.2)!	65 (3.6)	221 (1.6)	31 (3.6)	220 (1.6)
Pennsylvania	4 (1.2)	229 (6.0)!	77 (2.7)	224 (1.4)	19 (2.5)	218 (2.7)
Rhode Island	2 (0.8)	*** (***)	64 (3.7)	218 (1.8)	34 (3.7)	214 (3.0)
South Carolina	22 (2.7)	213 (2.4)	74 (2.9)	216 (1.3)	5 (1.5)	207 (7.1)!
Tennessee	14 (2.3)	214 (2.6)	70 (3.2)	212 (1.9)	16 (2.5)	208 (2.7)
Texas	17 (2.9)	219 (2.1)	72 (3.1)	221 (1.8)	10 (2.0)	218 (5.1)!
Utah	9 (1.8)	232 (3.7)!	78 (2.4)	227 (1.1)	12 (2.2)	222 (2.5)
Virginia	8 (1.9)	229 (4.7)!	70 (2.5)	223 (1.6)	21 (2.2)	214 (2.1)
West Virginia	8 (2.3)	221 (4.0)!	70 (3.4)	217 (1.3)	22 (3.0)	214 (2.4)
Wisconsin	4 (1.0)	231 (7.0)!	69 (3.7)	230 (1.3)	27 (3.7)	224 (2.2)
Wyoming	3 (1.1)	230 (4.8)!	70 (3.3)	228 (1.5)	26 (3.0)	228 (2.0)
TERRITORY						
Guam	12 (0.8)	200 (2.0)	61 (1.1)	203 (1.3)	28 (1.0)	201 (3.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 8.14 | Teachers' Reports on the Instructional Emphasis Placed on Geometry (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Geometry Proficiency	Percentage of Students	Geometry Proficiency	Percentage of Students	Geometry Proficiency
NATION	18 (2.6)	263 (2.3)	71 (2.7)	263 (1.4)	11 (1.4)	264 (4.4)
Northeast	21 (4.7)	265 (4.3)!	69 (4.7)	264 (3.7)	10 (4.2)	256(19.8)!
Southeast	15 (4.9)	259 (4.8)!	77 (4.5)	256 (1.9)	9 (2.9)	257 (6.4)!
Central	18 (2.9)	267 (6.0)	69 (3.6)	270 (2.6)	13 (2.6)	275 (6.3)!
West	17 (6.5)	261 (3.5)!	70 (7.1)	264 (2.9)	12 (2.4)	264 (5.4)!
STATES						
Alabama	30 (4.3)	242 (4.8)	60 (4.2)	247 (2.3)	8 (1.5)«	247 (5.1)
Arizona	14 (2.3)	→ 265 (2.9)	65 (2.6) >	258 (1.3)	20 (2.1)«	259 (4.0)
Arkansas	14 (2.7)	250 (3.5)	64 (3.3)	250 (1.6)	23 (3.0)	253 (2.9)
California	16 (2.6)	264 (3.8)	67 (3.1) >	259 (2.2)	16 (1.6)	260 (4.4)
Colorado	14 (1.8)	273 (3.0)	71 (2.3)»	266 (1.4)	15 (1.9)«	276 (2.9) >
Connecticut	18 (1.9)	274 (2.5)	63 (2.0) >	265 (1.3)	19 (1.7)	275 (3.8)
Delaware	20 (0.8)	257 (3.2)	70 (1.0)»	256 (1.2)	11 (0.7)«	266 (4.9)
Dist. Columbia	24 (1.1)	236 (2.4)	67 (1.1)»	229 (1.7)	9 (0.9)«	248 (5.6)
Florida	13 (2.0)	259 (3.5)	66 (3.5) >	254 (1.1)	21 (2.8)	256 (4.1)
Georgia	24 (2.3)	250 (2.8)	62 (2.3) >	253 (2.0)	13 (2.0)	260 (4.4)
Hawaii	16 (0.8)	269 (2.5)	73 (0.9)»	256 (1.6) >	11 (0.5)«	245 (3.4)
Idaho	12 (1.7)	275 (1.9)	64 (2.6) >	271 (1.4)	24 (2.5) <	268 (1.9)
Indiana	14 (2.5)	269 (2.7)	71 (3.2) >	265 (1.6)	14 (2.2)«	268 (3.9)
Iowa	21 (3.8)	279 (2.5)	66 (3.9)	276 (1.2) >	13 (1.7)	283 (4.6)
Kentucky	22 (3.1)	262 (2.6)	67 (2.9)»	257 (1.1)	11 (2.3) <	244 (3.7)!
Louisiana	15 (2.9)	249 (5.3)	71 (3.3) >	244 (1.9)	14 (2.2) <	245 (4.0)
Maine	20 (3.7)	276 (2.2)	65 (3.5)	275 (1.5)	15 (2.5)	267 (3.9)
Maryland	20 (3.0)	260 (3.4)	62 (3.1) >	259 (2.1)	18 (2.1)«	266 (5.0)
Massachusetts	19 (2.8)	271 (3.4)	56 (3.0)	267 (2.0)	25 (3.0)	263 (2.8)
Michigan	21 (3.1)	261 (4.4)	64 (3.3) >	261 (2.1)	15 (3.0) <	265 (5.2)!
Minnesota	10 (2.1)	291 (3.9)!»	76 (3.0)»	274 (1.5)	14 (2.1) <	287 (4.2)
Mississippi	25 (3.3)	241 (2.8)	65 (3.7)	238 (1.6)	10 (1.9)	241 (4.5)
Missouri	32 (3.2)	267 (1.7)	59 (3.3)	265 (1.6)	9 (1.4)	281 (5.1)
Nebraska	12 (3.0)	274 (2.8)!	73 (4.1) >	274 (1.5)	15 (2.6)	275 (3.1)
New Hampshire	18 (2.0)«	278 (2.0)	64 (2.9)»	271 (1.1)	18 (2.3)	275 (3.1)
New Jersey	32 (3.6)	258 (2.6)	59 (4.0) >	267 (2.5)	9 (2.1) <	279 (4.6)!
New Mexico	21 (2.6)	262 (2.1)	64 (3.2)»	255 (1.1)	15 (2.2)«	256 (2.8)
New York	35 (3.2)	269 (3.2)	60 (3.3)	258 (2.9)	4 (1.4)	231 (7.2)!
North Carolina	14 (2.4)	252 (2.4)	69 (3.0) >	253 (1.6) >	17 (2.1) <	258 (3.0)
North Dakota	16 (2.3)	277 (1.9)	76 (3.0)»	276 (1.7)	8 (1.8)«	290 (3.2)! >
Ohio	19 (2.7)	264 (2.6)	71 (2.9)»	262 (1.7)	10 (1.6)«	266 (4.6)
Oklahoma	12 (2.1)	269 (3.6)	68 (3.6)	260 (1.6)	21 (3.0)	265 (3.2)
Pennsylvania	18 (2.8)	263 (3.7)	66 (2.7)»	263 (1.7)	16 (2.0)«	270 (4.5)
Rhode Island	16 (0.9)	260 (1.8)	67 (1.1)»	257 (1.3)	18 (0.8)«	268 (2.4)»
South Carolina	40 (3.6)	252 (1.8)	53 (3.4)	256 (2.1)	7 (1.3)	286 (4.0)
Tennessee	29 (3.5)	258 (2.6)	58 (3.6)	251 (2.0)	13 (2.1)	249 (7.3)
Texas	30 (3.3)	261 (3.0)	64 (3.2) >	262 (1.8)	6 (1.0)	276 (6.6)
Utah	8 (1.1)	276 (3.2)	64 (2.2)	268 (1.6)	29 (2.1)	270 (1.9)
Virginia	12 (1.6)	266 (3.6)	63 (2.6)»	260 (1.6)	25 (2.4)	263 (2.7)
West Virginia	10 (1.8)	263 (2.7)	68 (2.6)»	253 (1.5)	22 (2.3) <	255 (2.7)
Wisconsin	22 (3.1)	274 (3.3)	67 (3.6)	273 (2.0)	12 (1.8) <	271 (4.6)
Wyoming	15 (2.1)	269 (2.4)	69 (2.2)»	270 (1.0)	16 (1.4)«	282 (2.4) >
TERRITORIES						
Guam	20 (0.9)	244 (2.8) <	54 (1.3)	243 (2.1) >	26 (1.1)	227 (2.2)
Virgin Islands	2 (0.4)«	*** (***)	67 (0.7)»	223 (1.2) <	31 (0.9)«	218 (2.3)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 8.14 | Teachers' Reports on the Instructional Emphasis Placed on Geometry (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Geometry Proficiency	Percentage of Students	Geometry Proficiency	Percentage of Students	Geometry Proficiency
NATION	28 (3.8)	259 (3.0)	51 (4.3)	260 (2.1)	21 (3.3)	264 (5.4)
Northeast	46(11.9)	264 (6.1)!	45(11.7)	273 (2.6)!	9 (1.9)	*** (***)
Southeast	22 (7.0)	253 (5.8)!	56(10.7)	254 (4.2)!	22 (8.8)	254 (9.4)!
Central	26 (7.0)	260 (8.3)!	39 (6.7)	259 (3.6)	35 (7.2)	261 (8.8)!
West	24 (6.3)	259 (3.3)!	59 (6.5)	260 (3.1)	16 (4.5)	276(10.1)!
STATES						
Alabama	26 (3.0)	252 (2.3)	50 (3.9)	249 (2.2)	24 (3.2)	249 (3.3)
Arizona	14 (1.8)	259 (3.6)	53 (2.4)	256 (1.6)	33 (2.3)	256 (2.1)
Arkansas	16 (2.5)	255 (2.9)	57 (3.1)	253 (1.5)	27 (2.9)	255 (1.6)
California	25 (3.1)	260 (2.7)	53 (3.0)	254 (1.9)	22 (2.5)	256 (3.4)
Colorado	20 (3.1)	269 (2.6)	48 (3.5)	264 (1.5)	31 (2.8)	263 (2.1)
Connecticut	27 (2.9)	267 (2.6)	52 (2.7)	264 (1.7)	20 (2.0)	274 (2.7)
Delaware	17 (0.9)	256 (2.1)	57 (1.4)	253 (1.8)	26 (1.1)	262 (2.2)
Dist. Columbia	25 (0.9)	230 (2.2)	56 (0.9)	225 (1.1)	19 (1.0)	247 (2.8)
Florida	18 (2.4)	255 (3.3)	50 (3.3)	252 (1.9)	32 (3.1)	250 (2.6)
Georgia	30 (2.6)	256 (2.4)	48 (3.1)	255 (1.8)	22 (2.7)	258 (4.0)
Hawaii	17 (0.7)	264 (1.6)	49 (0.9)	250 (1.2)	34 (0.9)	251 (1.4)
Idaho	14 (0.7)	270 (2.4)	53 (1.5)	269 (1.3)	34 (1.5)	268 (1.6)
Indiana	15 (2.4)	263 (2.6)	55 (3.1)	263 (1.6)	30 (3.0)	268 (3.4)
Iowa	25 (3.5)	281 (3.0)	54 (4.1)	270 (1.6)	21 (3.3)	274 (2.9)
Kentucky	25 (3.4)	257 (2.2)	49 (3.6)	251 (1.8)	26 (3.4)	254 (2.5)
Louisiana	14 (2.4)	241 (4.0)	56 (4.0)	244 (2.1)	30 (3.9)	241 (2.7)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	22 (2.5)	256 (2.9)	48 (2.7)	255 (2.4)	30 (2.2)	264 (2.7)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	20 (2.9)	261 (3.2)	49 (3.6)	261 (1.5)	31 (3.3)	263 (2.6)
Minnesota	19 (3.0)	270 (2.4)	54 (3.5)	273 (1.3)	27 (2.9)	274 (2.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	19 (2.6)	279 (1.9)	58 (3.3)	272 (1.7)	23 (2.3)	272 (3.0)
New Hampshire	27 (1.4)	271 (2.2)	47 (1.6)	270 (1.4)	25 (1.2)	273 (2.3)
New Jersey	37 (3.2)	264 (1.8)	43 (2.6)	262 (2.0)	21 (2.5)	277 (4.1)
New Mexico	25 (1.1)	255 (1.5)	43 (1.2)	258 (1.1)	33 (1.3)	258 (1.5)
New York	40 (3.0)	265 (2.9)	52 (3.1)	257 (2.4)	9 (1.3)	247 (4.8)
North Carolina	17 (2.4)	254 (2.4)	54 (3.0)	247 (1.7)	29 (2.7)	252 (3.0)
North Dakota	23 (3.0)	280 (1.4)	57 (3.2)	277 (2.1)	20 (1.8)	279 (2.3)
Ohio	23 (3.1)	264 (2.7)	50 (3.0)	260 (1.9)	27 (2.6)	264 (2.2)
Oklahoma	17 (2.8)	263 (2.3)	54 (4.2)	262 (1.6)	28 (3.2)	256 (2.6)
Pennsylvania	17 (2.7)	260 (3.0)	49 (2.9)	261 (2.0)	34 (3.0)	269 (4.2)
Rhode Island	17 (0.7)	262 (1.5)	44 (1.5)	255 (1.3)	39 (1.3)	255 (1.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	37 (3.0)	257 (2.4)	51 (2.9)	255 (1.6)	12 (2.0)	255 (5.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	18 (2.1)	267 (3.4)	48 (2.4)	259 (2.0)	34 (2.4)	258 (2.8)
West Virginia	14 (2.6)	252 (2.7)	49 (4.0)	254 (1.5)	37 (3.9)	256 (2.3)
Wisconsin	17 (2.7)	278 (3.1)	60 (3.8)	270 (1.9)	23 (3.1)	275 (2.7)
Wyoming	15 (0.9)	273 (1.7)	50 (0.8)	268 (0.9)	35 (1.2)	273 (1.5)
TERRITORIES						
Guam	22 (0.9)	256 (2.2)	50 (0.6)	234 (1.3)	28 (0.8)	226 (1.9)
Virgin Islands	11 (0.2)	218 (3.9)	38 (1.0)	229 (1.6)	51 (1.0)	222 (1.5)

TABLE 8.15 Teachers' Reports on the Instructional Emphasis Placed on Data Analysis, Statistics, and Probability, Grades 4 and 8

	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Data Analysis Proficiency	Percentage of Students	Data Analysis Proficiency	Percentage of Students	Data Analysis Proficiency
Grade 4						
Nation	7 (1.0)	222 (3.6)	40 (2.5)>	220 (1.7)>	54 (2.6)<	216 (1.1)
High ability	3 (1.9)	226(29.8)	51 (7.0)	243 (4.3)	46 (7.2)	233 (3.5)
Average ability	7 (1.9)>	227 (4.8)	41 (3.8)>	224 (1.9)>	52 (4.1)<	219 (1.6)
Low ability	2 (1.5)	205(12.5)	36 (3.9)	194 (3.9)	61 (4.1)	197 (2.5)
Mixed ability	8 (2.0)>	218 (4.0)	37 (3.7)>	215 (2.4)	55 (3.9)<	218 (1.9)
Grade 8						
Nation	11 (1.6)	273 (3.7)	60 (1.8)>	268 (1.3)	30 (1.8)<	267 (2.2)
High ability	16 (3.6)	297 (5.7)>	52 (3.3)	299 (2.1)	32 (4.4)	302 (2.2)
Average ability	8 (1.5)	266 (4.5)	68 (2.9)>	265 (1.5)	24 (2.9)<	265 (2.9)
Low ability	7 (3.1)	249 (7.3)	54 (5.5)>	245 (2.5)	40 (5.6)<	242 (3.6)
Mixed ability	14 (4.0)	261 (3.2)	57 (4.5)	264 (2.3)	29 (4.9)	256 (2.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. In 1990, different procedures were used to determine the emphasis placed on Data Analysis, Statistics, and Probability which involved subtopics. NOTE: The question specified informal introduction of concepts at grade 4

TABLE 8.16 | Teachers' Reports on the Instructional Emphasis Placed on Data Analysis, Statistics, and Probability

PUBLIC SCHOOLS	Grade 4 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Data Analysis Proficiency	Percentage of Students	Data Analysis Proficiency	Percentage of Students	Data Analysis Proficiency
NATION	7 (1.2)	222 (4.2)	41 (2.8)	221 (2.1)	52 (2.8)	215 (1.4)
Northeast	6 (2.5)	*** (***)	46 (5.5)	227 (3.8)	48 (6.2)	214 (3.4)
Southeast	7 (2.6)	224(11.2)!	44 (5.3)	212 (3.6)	49 (4.7)	205 (2.5)
Central	1 (0.9)	*** (***)	28 (6.7)	227 (3.2)!	71 (6.5)	224 (2.3)
West	14 (2.7)	220 (5.2)	46 (4.4)	221 (4.0)	40 (4.8)	214 (2.8)
STATES						
Alabama	10 (1.7)	209 (4.0)	52 (3.5)	209 (2.5)	39 (3.7)	209 (2.5)
Arizona	7 (1.4)	218 (4.6)!	34 (3.0)	217 (2.0)	60 (3.0)	212 (1.5)
Arkansas	5 (1.6)	205 (3.9)!	39 (3.2)	210 (2.4)	56 (3.3)	212 (1.5)
California	7 (1.7)	210 (4.6)!	53 (3.9)	209 (2.3)	40 (3.9)	202 (2.4)
Colorado	5 (1.3)	219 (3.9)!	43 (3.2)	225 (2.0)	52 (3.6)	216 (1.9)
Connecticut	8 (1.7)	230 (4.5)!	41 (3.1)	229 (2.6)	52 (3.2)	224 (2.4)
Delaware	5 (0.5)	235 (5.1)	33 (0.9)	227 (2.3)	62 (0.8)	215 (1.6)
Dist. Columbia	19 (0.6)	193 (1.7)	46 (1.0)	189 (1.5)	35 (0.9)	186 (2.3)
Florida	8 (1.8)	221 (3.6)!	37 (3.3)	215 (2.7)	55 (3.4)	214 (1.8)
Georgia	6 (1.4)	220 (5.0)!	52 (4.2)	218 (2.3)	42 (3.7)	217 (1.7)
Hawaii	6 (1.4)	214 (4.5)!	53 (3.1)	213 (1.9)	40 (3.2)	211 (2.2)
Idaho	5 (1.6)	225 (3.7)!	37 (3.2)	220 (1.6)	59 (3.2)	219 (1.4)
Indiana	3 (1.3)	202 (8.7)!	34 (3.3)	226 (2.1)	63 (3.4)	220 (1.4)
Iowa	4 (1.5)	231 (4.1)!	40 (3.3)	231 (1.5)	56 (3.7)	229 (1.5)
Kentucky	11 (2.3)	222 (3.2)!	50 (3.5)	213 (1.8)	39 (3.6)	214 (2.7)
Louisiana	14 (2.2)	206 (3.6)	45 (3.8)	206 (3.1)	42 (3.7)	202 (2.2)
Maine	3 (1.0)	*** (***)	51 (4.1)	232 (1.5)	46 (4.3)	231 (2.0)
Maryland	11 (1.6)	226 (4.5)	52 (3.3)	222 (2.1)	37 (3.1)	215 (3.1)
Massachusetts	5 (2.0)	225 (4.4)!	46 (3.7)	232 (1.9)	49 (4.0)	223 (2.3)
Michigan	8 (1.8)	216 (6.3)!	46 (3.8)	216 (2.7)	46 (3.8)	221 (2.3)
Minnesota	4 (1.3)	226 (7.9)!	42 (3.0)	228 (2.8)	54 (3.2)	226 (1.5)
Mississippi	8 (1.9)	195 (4.2)!	41 (3.4)	201 (2.1)	51 (3.5)	197 (2.1)
Missouri	4 (1.4)	207 (8.1)!	38 (3.2)	227 (2.6)	58 (3.2)	223 (1.7)
Nebraska	3 (1.2)	*** (***)	41 (4.3)	228 (2.4)	57 (4.0)	223 (2.2)
New Hampshire	6 (1.6)	237 (4.8)!	35 (3.1)	229 (2.1)	59 (3.3)	228 (2.0)
New Jersey	8 (2.5)	222 (9.3)!	48 (3.8)	230 (2.2)	44 (4.3)	223 (2.4)
New Mexico	6 (1.8)	214 (7.8)!	33 (3.5)	216 (2.0)	61 (3.2)	213 (1.8)
New York	7 (1.9)	223 (6.8)!	57 (2.9)	222 (2.0)	36 (3.2)	218 (2.4)
North Carolina	6 (1.2)	221 (6.0)	53 (2.8)	215 (1.6)	41 (2.8)	213 (2.0)
North Dakota	4 (2.3)	227 (6.2)!	33 (3.1)	233 (2.9)	63 (3.7)	227 (1.2)
Ohio	4 (1.3)	219 (5.9)!	43 (3.6)	223 (2.2)	53 (3.6)	215 (1.8)
Oklahoma	5 (1.2)	220 (4.0)!	43 (3.2)	223 (1.5)	52 (3.5)	221 (2.2)
Pennsylvania	4 (1.1)	226 (7.3)!	42 (3.9)	228 (2.3)	53 (4.1)	219 (1.8)
Rhode Island	3 (1.0)	*** (***)	25 (2.8)	221 (3.0)	73 (2.9)	211 (2.0)
South Carolina	7 (1.7)	220 (4.1)!	44 (3.7)	211 (2.4)	49 (3.5)	211 (2.0)
Tennessee	5 (1.3)	202 (5.2)!	38 (3.0)	212 (2.6)	56 (2.8)	211 (1.8)
Texas	16 (2.3)	218 (2.4)	59 (3.3)	219 (2.4)	25 (3.2)	219 (2.5)
Utah	6 (1.3)	216 (3.3)!	39 (3.0)	223 (2.1)	55 (3.1)	222 (1.5)
Virginia	5 (1.1)	219 (5.1)!	37 (2.7)	230 (2.9)	59 (2.9)	220 (1.8)
West Virginia	4 (1.2)	213 (9.1)!	40 (3.5)	218 (1.7)	56 (3.7)	211 (1.7)
Wisconsin	4 (1.1)	231 (4.5)!	42 (3.4)	232 (2.1)	54 (3.7)	227 (1.6)
Wyoming	8 (1.8)	228 (3.1)!	45 (3.5)	225 (1.6)	47 (3.4)	223 (1.4)
TERRITORY						
Guam	10 (0.8)	191 (2.4)	47 (1.0)	191 (1.7)	42 (0.9)	188 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In 1990, to determine the emphasis placed on Data Analysis, Statistics, and Probability, teacher responses were averaged across two topics: tables and graphs, and probability and statistics. In 1992, teachers were simply asked about the emphasis placed on Data Analysis, Statistics, and Probability. In both 1990 and 1992, at grade 4, the question specified the informal introduction of concepts. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 8.16 | Teachers' Reports on the Instructional Emphasis Placed on Data Analysis, Statistics, and Probability (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Data Analysis Proficiency	Percentage of Students	Data Analysis Proficiency	Percentage of Students	Data Analysis Proficiency
NATION	11 (1.7)	273 (4.8)	59 (2.0)»	268 (1.7)	30 (2.0)«	268 (2.6)
Northeast	17 (5.8)	273(11.1)!	57 (5.3)	271 (4.9)	27 (5.2)	266 (7.4)!
Southeast	7 (1.7)	275 (6.9)!	64 (3.6)>	261 (2.1)	29 (2.8)<	260 (5.0)
Central	9 (2.6)	279(12.4)!	66 (3.5)»	273 (3.5)	26 (3.9)«	283 (4.1)>
West	11 (3.2)	270 (4.9)!	53 (3.9)	269 (2.6)	36 (3.6)	266 (4.7)
STATES						
Alabama	9 (2.2)	247 (6.8)!	67 (3.2)»	255 (2.2)	24 (2.8)«	242 (4.4)
Arizona	11 (2.6)	272 (3.7)!>	50 (3.7)»	266 (2.0)	40 (3.5)«	261 (3.4)
Arkansas	7 (2.0)	257 (4.6)!	44 (4.0)>	257 (2.5)	49 (4.0)<	252 (2.4)
California	10 (1.8)	255 (6.1)	64 (3.3)»	261 (3.0)	27 (3.1)«	258 (3.9)
Colorado	11 (1.8)	284 (4.5)>	57 (3.1)»	271 (1.9)	32 (3.1)«	272 (2.8)
Connecticut	13 (2.4)	279 (5.8)	50 (2.6)»	271 (2.3)	37 (3.0)«	277 (2.9)
Delaware	14 (0.5)	272 (3.3)	51 (0.9)»	261 (1.7)	34 (0.8)«	263 (2.6)
Dist. Columbia	29 (1.1)»	229 (4.4)>	55 (1.2)>	227 (1.4)»	16 (1.1)«	248 (5.1)
Florida	10 (1.7)	273 (4.9)>	60 (2.5)»	259 (1.9)	30 (2.7)«	254 (3.6)
Georgia	12 (2.0)	262 (4.2)	55 (2.5)>	259 (2.4)	33 (2.5)	257 (2.7)
Hawaii	8 (0.6)»	272 (5.6)	45 (0.9)»	254 (1.5)	47 (0.9)«	242 (2.0)
Idaho	4 (0.9)	283 (6.8)	58 (2.9)»	274 (1.7)	38 (2.8)«	273 (1.7)
Indiana	5 (1.4)	281 (4.2)!	63 (3.3)»	274 (2.2)	32 (3.2)«	271 (3.1)
Iowa	8 (2.0)>	290 (4.8)!	58 (4.3)>	283 (2.2)	34 (4.4)«	286 (2.8)>
Kentucky	15 (2.1)	278 (4.6)	61 (3.1)»	263 (1.9)	24 (3.0)«	254 (3.9)
Louisiana	14 (2.6)>	246 (6.4)	48 (3.8)	249 (3.1)	38 (3.6)«	247 (2.7)
Maine	15 (3.2)	285 (3.5)!	61 (3.9)	282 (1.8)	24 (3.1)	279 (3.7)
Maryland	19 (3.3)>	267 (4.3)	59 (3.5)»	266 (2.5)	22 (2.7)«	274 (4.9)
Massachusetts	8 (1.6)	280 (5.8)!	41 (3.1)	275 (3.0)	51 (3.4)	272 (2.4)
Michigan	16 (2.8)>	267 (4.8)	59 (3.1)»	269 (2.5)	25 (3.2)«	265 (4.0)
Minnesota	7 (1.6)	305 (7.1)!	58 (3.3)»	283 (1.9)	35 (3.4)«	280 (2.3)
Mississippi	7 (1.8)	250 (6.1)!	45 (3.6)	245 (2.8)	49 (4.0)	240 (2.5)
Missouri	10 (2.2)	272 (4.2)!	57 (3.2)	272 (1.8)	33 (3.6)	272 (3.0)
Nebraska	7 (1.9)	282 (5.1)!	54 (4.3)»	278 (2.6)	39 (4.2)«	279 (2.5)
New Hampshire	10 (2.1)	287 (3.6)!>	51 (3.1)»	281 (1.7)	39 (3.4)«	280 (2.4)
New Jersey	15 (3.0)	262 (6.4)!	62 (4.1)»	272 (3.2)	23 (3.4)«	273 (4.4)
New Mexico	12 (2.3)	263 (3.4)!	60 (3.0)»	260 (1.6)	27 (2.8)«	253 (2.6)
New York	14 (2.2)	286 (4.5)	70 (2.8)»	269 (3.4)	16 (2.3)«	248 (7.3)
North Carolina	10 (1.9)	265 (3.5)	55 (3.2)»	256 (1.9)	35 (3.2)«	257 (3.0)>
North Dakota	4 (1.9)	291 (3.5)!>	62 (3.8)»	285 (1.6)	33 (3.2)«	287 (2.1)
Ohio	10 (2.1)	278 (8.2)!	57 (3.7)»	268 (2.7)	32 (3.5)«	274 (3.9)
Oklahoma	4 (1.1)	278 (8.8)!	50 (3.4)»	268 (2.4)	47 (3.4)«	269 (2.2)
Pennsylvania	10 (2.3)>	280 (4.7)!	40 (2.8)»	270 (2.3)	51 (3.1)«	273 (2.6)
Rhode Island	12 (0.6)»	274 (5.0)	54 (1.2)»	263 (1.9)	34 (1.1)«	268 (1.6)»
South Carolina	11 (1.8)	271 (6.1)	54 (3.2)	257 (2.1)	35 (3.2)	260 (2.7)
Tennessee	6 (1.7)	264 (6.5)!	59 (4.0)	260 (1.7)	34 (3.7)	256 (3.7)
Texas	21 (3.0)	269 (4.7)	61 (3.3)»	263 (2.4)>	18 (2.2)«	261 (4.1)
Utah	4 (1.0)	284 (4.3)!	51 (2.5)	274 (1.6)	45 (2.5)	277 (1.8)
Virginia	6 (1.2)	273 (5.4)!	47 (2.7)»	265 (2.2)	47 (2.8)«	270 (2.4)»
West Virginia	5 (1.5)	267 (6.7)•	50 (3.1)»	260 (2.1)	46 (3.2)«	258 (2.6)
Wisconsin	18 (2.8)»	288 (4.1)	57 (4.6)>	279 (2.1)	24 (4.7)«	278 (4.8)!
Wyoming	7 (1.4)	274 (5.3)!	56 (2.8)»	276 (1.3)	37 (2.5)«	274 (2.2)
TERRITORIES						
Guam	10 (0.7)»	270 (3.8)>	52 (1.2)»	223 (2.8)	38 (1.1)«	207 (2.8)
Virgin Islands	13 (0.8)»	217 (5.3)<	47 (0.9)»	214 (2.6)»	40 (1.1)«	210 (2.9)>

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TABLE 8.17 Teachers' Reports on the Instructional Emphasis Placed on Algebra and Functions, Grades 4 and 8

	Assessment Years	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
		Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency	Percent of Students	Algebra Proficiency
Grade 4							
Nation	**1992**	4 (0.9)	220 (3.6)	30 (3.1)>	219 (2.2)	66 (3.2)<	218 (1.1)
	1990	2 (0.7)	207 (8.8)	17 (2.4)	213 (2.9)	82 (2.5)	215 (1.1)
High ability	**1992**	7 (3.5)	235(14.5)	28 (8.1)	244 (8.0)	65 (7.4)	235 (2.5)
	1990	1 (1.0)	204 (*.*)	23 (6.1)	224 (6.4)	76 (6.3)	240 (6.2)
Average ability	**1992**	2 (0.7)	224 (9.4)	29 (4.6)	223 (2.7)>	69 (4.7)	221 (1.4)
	1990	1 (1.0)	236 (6.8)	18 (4.3)	209 (4.8)	81 (4.3)	216 (1.7)
Low ability	**1992**	1 (0.9)	173 (8.4)<	30 (4.7)	194 (5.2)	68 (4.5)	197 (2.2)
	1990	2 (2.5)	228 (4.5)	20 (6.9)	207(13.0)	77 (7.4)	201 (3.0)
Mixed ability	**1992**	5 (1.9)	218 (3.1)>	32 (3.9)>	217 (1.9)	62 (4.3)<	217 (1.9)
	1990	3 (1.3)	191 (6.6)	14 (3.9)	216 (3.2)	84 (4.1)	212 (1.8)
Grade 8							
Nation	**1992**	48 (2.0)	281 (1.6)	40 (2.1)	261 (1.3)>	12 (1.4)	245 (2.5)
	1990	48 (3.5)	276 (2.2)	34 (3.0)	255 (2.0)	18 (2.9)	246 (3.1)
High ability	**1992**	92 (2.4)	301 (1.8)>	7 (2.1)	290 (5.9)	1 (0.6)	248(25.6)
	1990	87 (3.7)	289 (2.7)	11 (3.3)	277 (3.4)	2 (1.3)	297 (3.0)
Average ability	**1992**	38 (3.3)	270 (1.9)	52 (3.7)	264 (1.8)	10 (2.2)	255 (4.5)
	1990	39 (5.3)	266 (3.2)	42 (4.9)	258 (3.4)	19 (4.0)	250 (4.5)
Low ability	**1992**	18 (3.6)	244 (2.2)	50 (5.7)	248 (2.7)	33 (4.7)	239 (3.3)
	1990	19 (4.5)	254 (7.8)	39 (6.2)	243 (4.6)	42 (6.7)	239 (4.7)
Mixed ability	**1992**	45 (4.9)	266 (1.8)	43 (4.5)	263 (2.0)	12 (3.2)	238 (5.2)
	1990	42 (9.1)	266 (3.2)	43 (8.2)	253 (4.2)	15 (5.7)	242 (7.2)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. NOTE: In both 1990 and 1992, the question specified informal introduction of concepts at grade 4.

TABLE 8.18 | Teachers' Reports on the Instructional Emphasis Placed on Algebra and Functions

PUBLIC SCHOOLS	Grade 4 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Algebra and Functions Proficiency	Percentage of Students	Algebra and Functions Proficiency	Percentage of Students	Algebra and Functions Proficiency
NATION	4 (1.1)	218 (4.3)!	32 (3.4)	216 (3.0)	65 (3.5)	215 (1.5)
Northeast	3 (1.7)	*** (***)	31 (4.6)	220 (4.6)!	66 (4.5)	220 (2.7)
Southeast	0 (0.3)	*** (***)	24 (2.9)	204 (5.1)	75 (2.9)	206 (2.5)
Central	0 (0.3)	*** (***)	27(11.2)	220 (6.2)!	72(11.2)	222 (2.9)
West	11 (3.5)	215 (3.6)!	44 (4.2)	218 (5.0)	45 (5.3)	215 (2.9)
STATES						
Alabama	3 (1.7)	209(18.0)!	36 (3.8)	205 (3.1)	61 (3.9)	203 (2.5)
Arizona	3 (0.9)	205 (7.4)!	32 (3.2)	219 (2.5)	65 (3.2)	211 (1.6)
Arkansas	1 (0.5)	*** (***)	14 (2.3)	211 (3.0)	85 (2.3)	206 (1.2)
California	9 (1.8)	205 (4.2)!	38 (3.3)	213 (3.2)	53 (3.3)	206 (2.3)
Colorado	3 (1.1)	223 (3.9)!	34 (3.1)	221 (2.8)	62 (3.2)	214 (1.9)
Connecticut	3 (1.2)	236 (8.1)!	34 (3.7)	227 (3.1)	63 (3.8)	226 (1.9)
Delaware	2 (0.4)	*** (***)	23 (0.7)	229 (3.1)	75 (0.8)	211 (1.6)
Dist. Columbia	12 (0.7)	199 (4.0)	39 (0.8)	187 (2.0)	49 (0.8)	191 (1.9)
Florida	3 (0.9)	221 (4.7)!	32 (2.8)	211 (2.4)	65 (2.7)	211 (2.4)
Georgia	3 (1.1)	225 (5.6)!	23 (2.5)	217 (3.5)	74 (2.3)	211 (2.9)
Hawaii	3 (1.0)	216 (4.8)!	38 (2.8)	211 (2.2)	59 (2.9)	210 (2.2)
Idaho	2 (0.9)	*** (***)	30 (3.1)	217 (2.1)	68 (3.3)	217 (1.7)
Indiana	1 (1.0)	*** (***)	20 (3.1)	219 (3.4)	79 (3.3)	217 (2.2)
Iowa	1 (0.8)	*** (***)	26 (2.8)	228 (2.2)	73 (2.9)	225 (1.6)
Kentucky	1 (0.7)	*** (***)	39 (3.2)	212 (2.4)	60 (3.3)	212 (1.6)
Louisiana	6 (1.3)	208 (5.4)!	46 (3.3)	205 (2.7)	48 (3.5)	196 (2.5)
Maine	4 (1.3)	233(10.2)!	27 (3.5)	229 (2.7)	69 (3.9)	227 (2.1)
Maryland	3 (0.8)	220 (7.3)!	27 (2.7)	218 (2.8)	70 (2.5)	216 (2.1)
Massachusetts	3 (1.1)	*** (***)	30 (3.9)	226 (3.3)	68 (4.1)	221 (2.0)
Michigan	6 (1.9)	212(10.2)!	46 (4.0)	215 (2.6)	48 (4.1)	218 (3.1)
Minnesota	3 (1.2)	236 (5.7)!	26 (3.4)	226 (2.6)	71 (3.8)	224 (1.5)
Mississippi	4 (1.7)	195 (6.4)!	32 (3.4)	197 (3.8)	64 (3.7)	193 (1.9)
Missouri	1 (0.5)	*** (***)	30 (3.5)	222 (2.8)	70 (3.6)	220 (1.4)
Nebraska	2 (1.0)	*** (***)	29 (3.0)	225 (2.6)	69 (3.1)	218 (2.2)
New Hampshire	2 (1.0)	*** (***)	23 (3.0)	229 (3.4)	75 (3.0)	226 (1.4)
New Jersey	5 (1.8)	223 (6.4)!	39 (4.5)	228 (3.7)	57 (4.4)	222 (2.5)
New Mexico	2 (1.2)	*** (***)	29 (2.9)	213 (2.8)	69 (3.2)	210 (2.0)
New York	5 (1.2)	213 (8.5)!	41 (2.8)	220 (2.9)	54 (3.1)	211 (2.3)
North Carolina	2 (0.6)	*** (***)	29 (2.8)	213 (2.3)	68 (2.8)	210 (1.9)
North Dakota	1 (0.5)	*** (***)	20 (3.7)	226 (2.9)	79 (3.7)	225 (1.5)
Ohio	5 (1.7)	228 (7.8)!	31 (3.6)	215 (2.7)	64 (4.0)	216 (2.0)
Oklahoma	5 (1.8)	212 (5.8)!	27 (3.4)	220 (3.0)	68 (3.6)	217 (1.5)
Pennsylvania	2 (0.9)	*** (***)	27 (3.0)	230 (3.1)	72 (3.1)	218 (1.7)
Rhode Island	2 (0.9)	*** (***)	22 (2.9)	218 (3.0)	77 (3.1)	210 (2.6)
South Carolina	2 (0.8)	*** (***)	22 (3.0)	204 (2.5)	75 (3.0)	208 (1.9)
Tennessee	3 (1.0)	206 (8.4)!	22 (2.5)	211 (3.0)	75 (2.5)	208 (1.9)
Texas	8 (2.0)	219 (4.1)!	48 (3.6)	221 (3.0)	44 (3.6)	213 (2.6)
Utah	6 (1.6)	226 (4.5)!	35 (3.1)	222 (2.0)	59 (3.6)	220 (1.6)
Virginia	4 (1.4)	224 (8.6)!	21 (2.2)	221 (3.3)	75 (2.8)	215 (1.9)
West Virginia	2 (0.9)	*** (***)	29 (3.2)	212 (2.9)	69 (3.1)	208 (2.1)
Wisconsin	3 (1.0)	227 (3.9)!	27 (2.8)	226 (2.4)	70 (3.0)	225 (1.7)
Wyoming	4 (1.1)	226 (3.3)!	30 (3.3)	221 (2.3)	66 (3.3)	222 (1.3)
TERRITORY						
Guam	8 (0.8)	187 (5.0)	36 (1.2)	193 (2.2)	57 (1.0)	193 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. At grade 4, the question specified the informal introduction of concepts. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 8.18 | Teachers' Reports on the Instructional Emphasis Placed on Algebra and Functions (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Algebra and Functions Proficiency	Percentage of Students	Algebra and Functions Proficiency	Percentage of Students	Algebra and Functions Proficiency
NATION	46 (2.1)	282 (2.1)	41 (2.2)	259 (1.5)	13 (1.5)	241 (2.8)
Northeast	38 (3.2)	293 (4.6)	40 (4.0)	257 (3.2)	22 (3.9)	241 (4.7)
Southeast	49 (4.4)	273 (2.9)	42 (4.0)	255 (2.5)	9 (1.9)	237 (5.6)!
Central	43 (3.6)	288 (3.7)	48 (5.1)	265 (3.5)	9 (2.9)	250 (8.2)!
West	51 (4.4)	279 (3.7)	36 (3.6)	259 (2.2)	13 (2.8)	237 (4.7)!
STATES						
Alabama	42 (2.9)	268 (2.6)	45 (3.5)	247 (3.4)	13 (2.1)	227 (3.7)
Arizona	50 (3.1)	273 (2.2)	39 (3.2)	256 (2.5)	11 (1.7)	242 (3.5)
Arkansas	35 (3.1)	276 (2.6)	44 (3.3)	248 (2.1)	21 (2.6)	236 (2.6)
California	42 (2.6)	277 (2.7)	42 (2.4)	251 (3.2)	16 (1.8)	238 (2.7)
Colorado	53 (2.7)	280 (1.7)	41 (2.7)	260 (1.8)	7 (1.2)	251 (3.8)
Connecticut	40 (2.5)	290 (2.3)	42 (2.4)»	265 (2.1)	18 (2.0)	241 (3.4)
Delaware	41 (1.1)	285 (1.9)	40 (1.1)»	255 (1.1)	19 (1.0)«	232 (2.2)
Dist. Columbia	54 (1.2)»	250 (2.0)	37 (1.1)«	224 (2.4)	9 (0.6)	225 (4.5)
Florida	47 (2.3)	279 (1.8)	34 (2.3)	248 (1.8)	19 (2.2)<	238 (3.4)
Georgia	44 (2.7)	274 (2.1)	31 (2.4)	251 (2.9)	25 (2.0)	237 (2.2)
Hawaii	31 (0.8)	281 (2.1)	42 (0.9)»	252 (1.4)>	26 (0.8)«	235 (1.6)»
Idaho	54 (2.5)	284 (1.4)	39 (2.6)	268 (1.4)»	7 (1.1)«	238 (4.0)
Indiana	44 (2.7)	283 (2.1)	46 (2.9)>	258 (1.7)	10 (1.4)«	240 (4.6)
Iowa	55 (3.4)	288 (1.8)	38 (3.3)	274 (1.9)	7 (1.4)	250 (5.0)!
Kentucky	50 (3.0)	274 (2.4)	40 (3.0)	253 (1.7)	10 (1.9)	235 (4.6)
Louisiana	72 (3.6)>	253 (2.3)	25 (3.4)	247 (3.6)	3 (1.0)	220 (9.0)!
Maine	46 (4.2)	285 (2.2)	40 (3.6)	270 (1.9)	14 (1.9)	251 (3.6)
Maryland	51 (2.5)	281 (2.7)	32 (2.3)	254 (2.7)	17 (1.9)	238 (4.3)
Massachusetts	47 (2.7)	286 (2.3)	38 (3.1)	263 (2.2)	15 (1.6)	247 (3.5)
Michigan	47 (3.6)	279 (2.8)	43 (3.7)	257 (2.6)	10 (1.8)	245 (3.3)
Minnesota	54 (3.7)	291 (1.6)>	42 (3.9)	270 (1.8)	4 (1.4)	253 (7.0)!
Mississippi	44 (3.4)	260 (2.5)	38 (3.3)	235 (2.1)	18 (2.4)	230 (3.2)
Missouri	43 (3.0)	285 (2.0)	42 (3.2)	263 (2.0)	15 (2.2)	250 (2.5)
Nebraska	45 (3.5)	286 (2.3)	48 (3.6)	271 (2.0)	7 (1.5)	248 (5.5)!
New Hampshire	42 (2.9)	288 (1.7)	40 (2.5)»	268 (1.5)	18 (3.1)	257 (2.9)
New Jersey	47 (3.5)	284 (3.3)	39 (3.3)	267 (2.6)	14 (2.4)	247 (4.7)
New Mexico	49 (2.9)	267 (1.6)	44 (2.9)>	250 (2.0)	8 (1.2)«	242 (5.1)
New York	48 (3.1)	281 (2.3)	42 (3.1)	253 (3.4)	9 (1.7)	232 (7.4)
North Carolina	44 (2.7)	278 (1.9)	40 (2.5)>	249 (2.3)	16 (2.0)«	231 (3.4)
North Dakota	54 (4.2)	283 (1.6)	38 (4.0)	276 (2.4)	8 (1.5)	268 (3.8)
Ohio	38 (3.4)	286 (2.6)>	45 (4.0)>	259 (2.5)	17 (3.4)	253 (5.6)!
Oklahoma	49 (2.9)	277 (2.1)	40 (3.0)	259 (1.7)	11 (2.0)	249 (4.8)
Pennsylvania	48 (2.5)	284 (2.2)	36 (2.3)	260 (2.1)	16 (2.1)	248 (4.2)
Rhode Island	45 (1.0)	281 (1.1)	40 (0.9)»	257 (2.4)	14 (0.8)«	241 (3.5)
South Carolina	36 (2.5)	283 (3.1)	37 (2.4)	251 (2.1)	27 (2.5)	241 (2.9)
Tennessee	42 (3.0)	271 (2.2)	41 (2.9)	250 (2.2)	18 (2.8)	240 (3.9)
Texas	57 (2.8)	275 (2.2)»	36 (2.7)	256 (1.8)>	6 (1.4)	239 (5.1)!
Utah	59 (2.4)	283 (1.7)	30 (2.3)	262 (2.1)	11 (1.3)	243 (2.5)
Virginia	52 (2.4)	284 (2.1)	32 (2.6)	256 (2.1)	17 (2.3)	237 (2.4)
West Virginia	46 (3.0)	273 (1.8)	38 (3.1)	247 (1.8)	16 (2.5)	235 (3.1)
Wisconsin	48 (4.4)	282 (2.0)	42 (4.3)	269 (2.2)	11 (4.8)	264 (18.7)!
Wyoming	47 (2.3)	283 (1.4)	43 (2.7)	263 (1.8)	10 (2.0)	257 (4.2)!
TERRITORIES						
Guam	28 (1.2)«	267 (2.6)»	38 (1.4)»	233 (2.7)>	35 (0.9)	216 (1.9)
Virgin Islands	25 (0.8)«	230 (2.5)	63 (0.9)»	214 (2.0)	12 (0.5)«	230 (2.6)»

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 8.18 | Teachers' Reports on the Instructional Emphasis Placed on Algebra and Functions (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
	Percentage of Students	Algebra and Functions Proficiency	Percentage of Students	Algebra and Functions Proficiency	Percentage of Students	Algebra and Functions Proficiency
NATION	46 (3.6)	275 (2.6)	34 (3.2)	252 (2.3)	20 (3.0)	244 (3.2)
Northeast	52(11.5)	274 (8.2)!	34 (7.1)	256 (4.4)!	14 (6.6)	*** (***)
Southeast	42 (6.0)	278 (5.4)	37 (5.6)	247 (2.5)	21 (8.1)	240 (7.2)!
Central	50 (7.6)	272 (4.0)	31 (6.7)	250 (4.7)!	19 (3.9)	242 (5.2)!
West	43 (5.6)	277 (5.0)	34 (5.4)	256 (4.9)	23 (5.1)	242 (4.7)!
STATES						
Alabama	41 (3.0)	267 (1.9)	38 (3.2)	247 (2.0)	21 (2.9)	234 (3.2)
Arizona	51 (2.8)	272 (2.1)	32 (2.8)	249 (2.0)	17 (1.9)	233 (2.4)
Arkansas	33 (2.8)	273 (2.1)	37 (3.6)	248 (1.5)	30 (3.7)	240 (1.9)
California	46 (2.4)	272 (2.5)	36 (2.8)	248 (2.3)	19 (1.9)	235 (2.7)
Colorado	51 (3.5)	276 (1.7)	36 (2.7)	258 (1.7)	14 (2.6)	242 (4.1)
Connecticut	48 (2.6)	286 (2.0)	29 (2.3)	260 (2.2)	24 (2.2)	243 (2.4)
Delaware	39 (1.1)	285 (2.0)	32 (1.1)	253 (2.1)	30 (1.3)	232 (1.5)
Dist. Columbia	46 (1.0)	252 (1.6)	44 (1.0)	224 (1.6)	10 (0.6)	222 (2.3)
Florida	42 (2.2)	279 (2.1)	29 (2.2)	248 (1.6)	29 (2.3)	234 (2.6)
Georgia	47 (2.2)	271 (2.1)	25 (2.3)	249 (1.7)	28 (2.5)	237 (2.4)
Hawaii	29 (0.8)	283 (1.1)	34 (0.9)	246 (1.5)	36 (1.1)	226 (1.4)
Idaho	56 (1.5)	281 (1.3)	31 (1.5)	261 (1.0)	13 (0.9)	244 (2.0)
Indiana	45 (2.9)	283 (1.9)	33 (3.1)	258 (2.3)	22 (2.8)	243 (3.3)
Iowa	49 (4.4)	284 (2.4)	35 (3.9)	268 (1.7)	16 (3.2)	257 (3.3)!
Kentucky	46 (2.9)	272 (1.9)	34 (3.1)	248 (2.3)	20 (2.8)	236 (3.0)
Louisiana	59 (2.7)	252 (2.0)	33 (2.8)	239 (2.6)	8 (1.9)	230 (3.8)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	51 (2.4)	283 (2.3)	27 (2.0)	251 (2.7)	22 (2.0)	233 (3.4)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	47 (3.0)	276 (2.1)	35 (3.1)	258 (2.3)	17 (2.7)	243 (2.9)
Minnesota	50 (3.2)	284 (1.6)	41 (3.4)	266 (1.8)	8 (1.3)	246 (4.1)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	51 (3.5)	282 (1.9)	37 (3.5)	270 (1.4)	12 (1.7)	255 (5.2)
New Hampshire	47 (1.9)	284 (1.7)	29 (1.4)	266 (1.8)	24 (1.3)	254 (1.5)
New Jersey	55 (2.6)	280 (2.1)	32 (2.5)	258 (2.3)	13 (1.8)	246 (3.7)
New Mexico	53 (1.2)	267 (1.3)	32 (1.2)	250 (1.6)	15 (1.0)	237 (1.9)
New York	49 (3.0)	274 (2.2)	37 (2.8)	253 (2.5)	14 (1.7)	231 (3.0)
North Carolina	44 (2.6)	273 (2.1)	28 (2.7)	242 (2.0)	28 (2.3)	228 (2.2)
North Dakota	56 (3.4)	281 (1.5)	35 (3.7)	270 (3.1)	9 (1.9)	266 (2.7)!
Ohio	50 (3.0)	277 (1.8)	30 (3.0)	256 (2.0)	20 (2.8)	242 (2.2)
Oklahoma	55 (3.4)	270 (1.8)	30 (3.2)	258 (2.2)	15 (1.9)	246 (3.2)
Pennsylvania	48 (2.8)	282 (2.1)	32 (2.7)	258 (2.0)	20 (2.3)	238 (2.5)
Rhode Island	43 (1.0)	285 (1.3)	30 (0.9)	253 (1.3)	27 (0.8)	232 (1.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	52 (2.8)	264 (1.9)	35 (3.0)	247 (2.5)	13 (1.9)	236 (4.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	52 (2.3)	282 (2.4)	24 (2.1)	255 (3.0)	23 (2.0)	236 (2.5)
West Virginia	41 (2.6)	274 (1.7)	32 (3.8)	245 (2.1)	27 (3.6)	236 (2.3)
Wisconsin	48 (3.7)	284 (2.0)	38 (3.5)	262 (1.7)	14 (2.3)	254 (3.3)
Wyoming	48 (1.3)	282 (1.3)	39 (1.5)	265 (1.3)	13 (0.6)	248 (2.5)
TERRITORIES						
Guam	37 (0.8)	254 (1.8)	31 (0.9)	224 (1.4)	33 (0.8)	210 (1.5)
Virgin Islands	47 (0.8)	229 (2.2)	34 (0.7)	214 (2.2)	19 (0.7)	211 (3.6)

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TABLE 8.19 Teachers' Reports on the Instructional Emphasis Placed on Specific Mathematics Skills and Abilities, Grades 4 and 8

	Assessment Years	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Learning Mathematics Facts and Concepts							
Grade 4							
Nation	1992	96 (0.7)>	218 (1.0)>	4 (0.7)<	216 (3.4)	0 (0.0)	--
	1990	88 (2.4)	214 (1.1)	11 (2.4)	219 (3.9)	0 (0.3)	--
High ability	1992	97 (1.7)>	238 (2.5)	3 (1.7)<	209(21.1)	0 (0.0)	--
	1990	76 (7.2)	232 (5.1)	21 (6.1)	243 (8.2)	3 (3.3)	--
Average ability	1992	97 (0.9)>	222 (1.3)>	3 (0.9)<	211 (6.5)	0 (0.0)	--
	1990	90 (2.5)	214 (1.8)	10 (2.5)	216 (5.0)	0 (0.3)	--
Low ability	1992	94 (2.4)	195 (2.2)	6 (2.4)	206 (8.4)	0 (0.0)	--
	1990	88 (4.1)	204 (3.8)	12 (4.4)	190 (9.0)	0 (0.0)	--
Mixed ability	1992	95 (1.7)	216 (1.3)	5 (1.5)	224 (3.7)	0 (0.0)	--
	1990	89 (5.8)	212 (1.4)	11 (5.8)	218(11.2)	0 (0.0)	--
Grade 8							
Nation	1992	74 (1.8)>	267 (1.1)	23 (1.9)<	271 (2.3)>	3 (0.9)	283 (3.2)>
	1990	55 (3.9)	264 (2.0)	38 (4.0)	262 (2.3)	7 (1.6)	265 (4.8)
High ability	1992	72 (3.4)	299 (2.0)	22 (3.2)	299 (3.0)>	6 (1.3)	301 (4.5)
	1990	60 (4.7)	292 (3.2)	33 (4.5)	283 (5.0)	7 (2.5)	285 (5.4)
Average ability	1992	73 (3.4)>	265 (1.4)	24 (3.9)<	267 (2.8)	3 (1.0)	274 (4.1)
	1990	47 (5.8)	260 (3.7)	45 (5.6)	261 (2.8)	8 (3.0)	257 (5.8)
Low ability	1992	83 (2.8)>	244 (1.8)	17 (2.8)	245 (6.0)	0 (0.4)	--
	1990	59 (6.1)	243 (4.6)	36 (6.7)	245 (4.2)	5 (3.0)	244 (6.2)
Mixed ability	1992	70 (5.8)	259 (1.8)	25 (4.8)	266 (3.4)	5 (2.3)	270 (5.7)
	1990	61 (7.5)	257 (3.2)	33 (7.8)	255 (7.1)	6 (3.3)	266 (8.7)
Learning Skills and Procedures Needed to Solve Problems							
Grade 4							
Nation	1992	92 (1.0)>	218 (1.0)>	8 (1.0)<	216 (2.2)	0 (0.1)	--
	1990	85 (2.3)	214 (1.2)	15 (2.3)	216 (3.0)	0 (0.1)	--
High ability	1992	90 (4.1)	240 (3.1)	10 (4.1)	221 (7.0)	0 (0.0)	--
	1990	86 (6.5)	234 (4.8)	14 (6.5)	251(13.1)	0 (0.0)	--
Average ability	1992	91 (1.9)	222 (1.3)>	9 (1.9)	220 (3.7)	0 (0.2)	--
	1990	86 (3.2)	214 (1.8)	13 (3.1)	217 (4.0)	0 (0.3)	--
Low ability	1992	93 (2.3)	196 (2.2)	7 (2.3)	197 (6.0)	0 (0.0)	--
	1990	85 (5.9)	203 (4.1)	15 (5.9)	195 (8.4)	0 (0.3)	--
Mixed ability	1992	95 (1.3)>	217 (1.3)	5 (1.3)<	214 (4.3)	0 (0.0)	--
	1990	83 (4.6)	212 (1.9)	17 (4.6)	214 (3.6)	0 (0.0)	--
Grade 8							
Nation	1992	79 (1.8)>	268 (1.2)	19(1.7)<	270 (2.6)	2 (0.5)	287(10.2)
	1990	67 (3.7)	264 (1.8)	29(3.4)	261 (2.4)	4 (1.2)	272 (6.7)
High ability	1992	75 (4.2)	299 (1.8)>	21(3.8)	299 (3.4)>	4 (1.5)	312 (6.8)>
	1990	70 (5.7)	291 (2.5)	24(5.1)	280 (6.1)	5 (2.2)	289 (5.1)
Average ability	1992	81 (2.2)>	266 (1.4)	18(2.0)	265 (2.5)	1 (0.7)	274 (1.7)
	1990	66 (6.0)	262 (2.7)	30(5.5)	256 (2.7)	4 (1.9)	260(11.7)
Low ability	1992	84 (2.3)>	245 (2.2)	15(2.3)	240 (3.5)	0 (0.4)	--
	1990	70 (4.9)	243 (3.7)	28(5.2)	246 (5.4)	2 (1.7)	256 (5.1)
Mixed ability	1992	76 (4.0)	261 (2.1)	22(3.6)	264 (3.3)	2 (1.2)	246(15.1)
	1990	69 (7.1)	254 (3.4)	28(7.1)	262 (6.3)	4 (2.8)	273(11.0)

(Table 8.19 continued on the next page)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students in either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 8.19 Teachers' Reports on the Instructional Emphasis Placed on Specific Mathematics Skills and Abilities, Grades 4 and 8 (continued)

	Assessment Years	Heavy Emphasis		Moderate Emphasis		Little or No Emphasis	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Developing Reasoning Ability to Solve Unique Problems							
Grade 4							
Nation	1992	48 (2.9)	220 (1.5)>	44 (2.9)	217 (1.3)	7 (1.3)	215 (2.5)
	1990	44 (3.9)	213 (1.9)	43 (3.1)	215 (1.5)	12 (2.2)	218 (3.3)
High ability	1992	48 (7.5)	242 (5.2)	51 (7.6)	234 (2.7)	1 (0.9)	226 (3.1)
	1990	66 (8.2)	234 (5.4)	30 (8.0)	242 (8.5)	3 (1.3)	220(12.6)
Average ability	1992	46 (4.9)	223(92.0)>	47 (4.8)	221 (1.7)	6 (1.7)	217 (4.8)
	1990	37 (5.0)	210 (3.0)	51 (4.7)	216 (2.3)	12 (3.4)	227 (5.4)
Low ability	1992	58 (4.5)	199 (3.3)	38 (4.7)	191 (3.2)	4 (2.0)	198(22.1)
	1990	56 (8.2)	206 (5.9)	33 (7.3)	197 (5.3)	11 (4.3)	200 (4.0)
Mixed ability	1992	48 (3.7)	219 (1.7)	42 (3.5)	215 (2.1)	10 (2.3)	215 (2.4)
	1990	44 (6.5)	211 (3.4)	43 (5.7)	214 (2.1)	13 (4.0)	214 (4.7)
Grade 8							
Nation	1992	49 (2.1)	275 (1.5)	46 (1.9)	264 (1.4)	5 (0.9)<	249 (3.5)
	1990	46 (3.2)	270 (2.5)	39 (3.2)	260 (2.5)	16 (2.3)	252 (3.1)
High ability	1992	72 (3.7)	302 (2.1)>	26 (3.7)	294 (3.0)	1 (0.6)	288 (7.7)
	1990	77 (3.8)	288 (3.0)	20 (3.5)	289 (4.3)	4 (1.4)	282 (7.0)
Average ability	1992	50 (3.8)	267 (1.6)	46 (3.9)	264 (1.8)	4 (0.8)<	258 (4.2)
	1990	42 (4.2)	264 (2.6)	39 (3.6)	259 (3.3)	20 (4.0)	254 (5.1)
Low ability	1992	28 (4.5)	242 (3.3)	59 (5.0)>	245 (3.0)	13 (2.0)<	244 (6.4)
	1990	32 (6.1)	238 (5.6)	35 (6.3)	244 (5.2)	33 (5.9)	251 (3.8)
Mixed ability	1992	38 (4.4)	260 (2.4)	55 (4.1)	265 (2.0)	7 (2.6)	240 (6.2)
	1990	33 (6.7)	258 (4.6)	56 (8.1)	259 (4.2)	11 (4.5)	242 (8.1)
Learning How to Communicate Ideas in Mathematics Effectively							
Grade 4							
Nation	1992	38 (2.4)	219 (2.0)>	50 (2.2)	217 (1.2)	12 (1.4)	219 (1.8)
	1990	40 (3.7)	212 (1.9)	43 (3.2)	216 (1.7)	17 (3.0)	217 (2.2)
High ability	1992	35 (7.2)	246 (6.9)	60 (8.5)	234 (2.5)	4 (2.5)	228 (5.7)
	1990	56 (9.9)	232 (5.9)	37 (9.0)	241 (6.5)	7 (4.1)	247(29.5)
Average ability	1992	37 (4.0)	222 (2.5)>	49 (4.4)	221 (1.5)	14 (2.3)	222 (2.8)
	1990	31 (4.9)	207 (3.0)	50 (4.7)	219 (2.6)	19 (4.4)	217 (2.9)
Low ability	1992	36 (5.2)	194 (2.6)	51 (5.5)	194 (3.1)	14 (4.5)	207 (8.2)
	1990	55 (8.6)	206 (5.5)	40 (8.2)	196 (3.9)	4 (2.5)	210(19.4)
Mixed ability	1992	39 (3.5)	218 (2.2)>	50 (3.3)	216 (1.7)	11 (3.1)	218 (2.8)
	1990	39 (5.8)	209 (2.2)	40 (6.0)	213 (3.2)	21 (5.0)	217 (2.7)
Grade 8							
Nation	1992	40 (2.3)	273 (1.6)>	50 (2.5)	266 (1.2)	10 (1.7)<	266 (3.9)
	1990	38 (3.4)	265 (2.8)	42 (3.5)	265 (2.1)	20 (2.8)	259 (2.9)
High ability	1992	52 (3.3)	302 (2.5)>	40 (3.3)	298 (2.5)	8 (2.7)	294 (3.1)
	1990	52 (5.3)	287 (3.9)	41 (5.5)	292 (2.7)	8 (2.7)	291 (4.7)
Average ability	1992	41 (4.1)	266 (2.1)	52 (4.3)	265 (1.7)	7 (2.1)<	263 (7.8)
	1990	34 (5.0)	262 (3.4)	44 (3.8)	259 (3.4)	22 (4.3)	260 (5.0)
Low ability	1992	27 (4.6)	241 (2.4)	56 (4.5)>	244 (2.2)	17 (4.9)	251 (5.1)
	1990	35 (6.1)	241 (5.0)	31 (5.1)	249 (4.9)	33 (5.9)	242 (4.3)
Mixed ability	1992	34 (4.4)	259 (2.9)	56 (4.8)	262 (2.2)	11 (2.3)	265 (4.6)
	1990	33 (7.1)	252 (5.4)	45 (8.8)	257 (4.2)	22 (6.2)	263 (6.9)

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TABLE 8.20 | Teachers' Reports on Placing Heavy Instructional Emphasis on Specific Mathematics Skills and Abilities

	Grade 4 - 1992							
	Learning Mathematics Facts and Concepts		Learning Skills and Procedures Needed to Solve Problems		Developing Reasoning Ability to Solve Unique Problems		Learning How to Communicate Ideas in Mathematics Effectively	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	96 (0.7)	217 (1.1)	93 (1.1)	217 (1.2)	50 (3.3)	219 (1.7)	39 (2.6)	219 (2.2)
Northeast	97 (1.9)	221 (3.0)	95 (2.2)	221 (3.0)	64 (2.9)	225 (3.3)	42 (5.2)	225 (4.0)
Southeast	95 (1.4)	207 (2.0)	94 (1.5)	208 (2.2)	49 (6.9)	209 (2.9)	45 (5.2)	208 (4.7)
Central	98 (1.2)	224 (2.1)	95 (2.4)	224 (2.2)	42 (7.5)	225 (2.9)	33 (4.8)	224 (3.4)
West	93 (1.3)	218 (2.1)	88 (2.6)	218 (2.1)	49 (6.0)	219 (4.0)	36 (5.6)	222 (4.3)
STATES								
Alabama	97 (0.9)	207 (1.6)	93 (1.5)	208 (1.6)	52 (3.4)	209 (1.9)	49 (3.5)	207 (2.1)
Arizona	94 (1.6)	214 (1.1)	90 (1.8)	215 (1.1)	46 (2.7)	216 (1.4)	34 (2.6)	216 (1.7)
Arkansas	99 (0.7)	209 (1.0)	91 (1.7)	209 (0.9)	31 (3.6)	210 (1.7)	29 (3.4)	209 (2.4)
California	89 (1.9)	208 (1.7)	89 (2.0)	208 (1.7)	48 (4.1)	208 (2.3)	36 (3.2)	210 (2.6)
Colorado	88 (1.9)	220 (1.2)	86 (1.8)	220 (1.2)	49 (3.4)	223 (1.4)	41 (2.9)	223 (1.7)
Connecticut	89 (2.4)	227 (1.5)	93 (1.7)	227 (1.4)	57 (2.8)	231 (1.7)	42 (3.5)	229 (2.1)
Delaware	95 (0.4)	217 (0.9)	93 (0.6)	218 (0.9)	42 (1.3)	223 (1.2)	41 (0.8)	222 (1.1)
Dist. Columbia	88 (0.9)	190 (0.9)	90 (0.8)	191 (0.8)	60 (1.0)	193 (0.9)	61 (1.0)	193 (0.9)
Florida	96 (1.4)	212 (1.3)	95 (1.1)	212 (1.3)	55 (3.4)	216 (1.4)	50 (3.4)	213 (1.7)
Georgia	93 (1.5)	214 (1.2)	95 (1.1)	214 (1.3)	50 (3.8)	217 (1.9)	50 (3.3)	215 (1.9)
Hawaii	89 (2.3)	213 (1.5)	88 (2.2)	214 (1.5)	44 (2.8)	218 (2.1)	36 (2.6)	215 (2.1)
Idaho	91 (2.3)	220 (1.1)	88 (2.1)	220 (1.1)	47 (3.5)	222 (1.4)	29 (2.9)	223 (1.4)
Indiana	96 (1.2)	220 (1.1)	88 (2.3)	219 (1.2)	38 (3.6)	222 (1.9)	30 (3.8)	219 (2.5)
Iowa	94 (1.5)	229 (1.1)	91 (2.3)	229 (1.1)	45 (4.1)	231 (1.5)	35 (3.4)	228 (1.8)
Kentucky	95 (1.4)	214 (1.1)	93 (1.6)	214 (1.1)	53 (3.8)	215 (1.3)	50 (3.9)	213 (1.5)
Louisiana	96 (1.2)	203 (1.6)	94 (1.2)	203 (1.6)	56 (2.9)	204 (1.8)	53 (3.4)	201 (2.2)
Maine	84 (2.7)	230 (1.0)	86 (2.4)	230 (1.1)	49 (3.8)	233 (1.7)	30 (3.4)	233 (2.1)
Maryland	89 (2.0)	217 (1.5)	89 (1.9)	217 (1.5)	65 (3.1)	220 (2.1)	49 (3.3)	216 (2.0)
Massachusetts	91 (2.9)	226 (1.4)	91 (2.1)	227 (1.3)	48 (3.8)	229 (1.6)	35 (3.3)	229 (2.4)
Michigan	91 (2.2)	219 (2.0)	90 (1.9)	218 (1.9)	57 (3.6)	218 (2.3)	45 (3.8)	217 (3.0)
Minnesota	90 (1.9)	227 (1.2)	88 (1.5)	227 (1.2)	46 (3.5)	230 (1.6)	29 (3.1)	229 (2.1)
Mississippi	96 (1.5)	199 (1.3)	93 (1.4)	200 (1.3)	43 (3.0)	199 (1.9)	45 (3.1)	198 (1.8)
Missouri	97 (0.8)	221 (1.4)	91 (2.1)	222 (1.5)	43 (3.5)	225 (2.0)	32 (3.2)	221 (2.5)
Nebraska	95 (1.5)	224 (1.4)	89 (2.6)	224 (1.4)	38 (3.6)	227 (1.9)	36 (3.7)	227 (2.4)
New Hampshire	92 (1.8)	229 (1.2)	88 (1.7)	229 (1.2)	47 (3.6)	233 (1.5)	35 (3.3)	233 (1.9)
New Jersey	95 (1.8)	227 (1.4)	97 (0.8)	227 (1.5)	59 (3.8)	230 (2.1)	53 (4.3)	229 (2.2)
New Mexico	95 (2.0)	213 (1.3)	89 (2.4)	212 (1.3)	37 (3.6)	217 (2.1)	39 (3.3)	213 (2.0)
New York	97 (1.0)	218 (1.4)	95 (2.0)	218 (1.3)	49 (3.1)	217 (2.0)	41 (3.4)	216 (2.1)
North Carolina	93 (1.7)	212 (1.0)	89 (2.0)	212 (1.1)	54 (3.3)	213 (1.4)	43 (3.2)	211 (1.8)
North Dakota	99 (0.7)	226 (0.9)	93 (1.9)	228 (0.9)	37 (3.8)	229 (1.2)	26 (3.4)	228 (1.6)
Ohio	97 (1.2)	217 (1.3)	93 (2.1)	218 (1.3)	53 (3.2)	221 (1.6)	40 (3.8)	220 (2.0)
Oklahoma	99 (0.7)	219 (1.0)	94 (1.5)	219 (1.1)	50 (3.6)	220 (1.5)	37 (3.5)	219 (1.4)
Pennsylvania	96 (1.2)	223 (1.5)	93 (1.6)	223 (1.5)	49 (2.6)	227 (2.0)	42 (2.9)	227 (2.0)
Rhode Island	96 (0.9)	214 (1.7)	93 (1.6)	214 (1.7)	40 (3.4)	217 (2.8)	27 (3.2)	212 (3.4)
South Carolina	95 (1.0)	212 (1.2)	93 (1.8)	211 (1.2)	48 (3.5)	213 (1.6)	48 (3.3)	214 (1.5)
Tennessee	97 (0.9)	210 (1.4)	93 (1.5)	210 (1.5)	42 (3.1)	210 (2.5)	41 (2.9)	208 (2.4)
Texas	92 (1.4)	217 (1.5)	93 (1.4)	217 (1.5)	61 (3.6)	219 (1.4)	48 (3.1)	219 (1.8)
Utah	96 (1.1)	223 (1.0)	90 (2.4)	223 (0.9)	45 (3.5)	225 (1.3)	34 (2.9)	228 (1.6)
Virginia	97 (0.9)	220 (1.4)	93 (1.3)	219 (1.5)	50 (3.2)	222 (2.1)	38 (3.1)	217 (1.8)
West Virginia	95 (1.2)	213 (1.2)	89 (2.5)	213 (1.3)	45 (4.0)	216 (1.9)	35 (3.3)	214 (2.0)
Wisconsin	93 (1.7)	227 (1.2)	90 (2.1)	228 (1.2)	55 (3.1)	231 (1.4)	37 (3.2)	230 (1.8)
Wyoming	95 (1.3)	225 (1.0)	91 (1.9)	225 (1.1)	51 (2.9)	226 (1.3)	34 (3.0)	225 (1.8)
TERRITORY								
Guam	92 (0.8)	192 (0.9)	87 (1.1)	191 (1.0)	36 (1.1)	193 (1.4)	40 (1.1)	197 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 8.20 | Teachers' Reports on Placing Heavy Instructional Emphasis on Specific Mathematics Skills and Abilities (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Learning Mathematics Facts and Concepts		Learning Skills and Procedures Needed to Solve Problems		Developing Reasoning Ability to Solve Unique Problems		Learning How to Communicate Ideas in Mathematics Effectively	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	74 (2.0)	266 (1.3)	79 (2.0)	267 (1.2)	48 (2.2)	275 (1.7)	39 (2.4)	272 (1.8)
Northeast	85 (3.1)	269 (3.4)	81 (5.6)	266 (3.1)	56 (4.5)	273 (3.9)	47 (4.6)	274 (5.2)
Southeast	80 (3.7)	261 (1.5)	79 (4.0)	261 (1.7)	47 (3.9)	267 (2.9)	35 (3.6)	265 (3.2)
Central	61 (5.4)	271 (2.5)	73 (4.0)	274 (2.7)	41 (4.8)	284 (2.8)	32 (5.6)	280 (2.6)!
West	71 (3.6)	266 (2.7)	83 (2.5)	268 (2.5)	49 (4.1)	276 (2.4)	44 (4.8)	271 (2.8)
STATES								
Alabama	79 (3.0) »	250 (1.8)	77 (3.7)	250 (1.9)	42 (3.5)	258 (3.8)	43 (4.2)	255 (3.3)
Arizona	72 (4.1) >	262 (1.5)	83 (2.2) »	264 (1.4)	51 (3.5)	271 (1.7)	43 (3.2)	268 (1.8)
Arkansas	72 (3.3) >	253 (1.6)	78 (3.0) >	256 (1.4)	31 (2.6)	266 (2.2)	30 (3.6)	262 (2.3)
California	57 (3.4)	259 (2.3)	70 (2.4) >	259 (2.2)	49 (3.1)	269 (2.6)	40 (3.5)	263 (2.8)
Colorado	70 (2.6) »	270 (1.1) >	73 (2.8) >	270 (1.1)	51 (2.7)	277 (1.3)	43 (3.2)	273 (2.0)
Connecticut	69 (2.8) »	268 (1.4)	71 (2.6) >	271 (1.6)	49 (3.3)	280 (2.1)	45 (3.1)	278 (2.2)
Delaware	72 (1.0) »	263 (1.1)	75 (1.0) »	261 (1.2)	50 (0.9)	269 (1.2)	40 (0.7) >	265 (1.5) «
Dist. Columbia	76 (0.9) »	234 (1.2)	73 (0.8) »	235 (1.1)	71 (1.3) »	235 (1.4)	66 (1.3) >	234 (1.3)
Florida	77 (2.4) »	259 (1.4)	79 (3.2) >	259 (1.5)	52 (3.1)	269 (1.7)	52 (3.1)	265 (1.9)
Georgia	78 (2.9) »	256 (1.5)	83 (2.8) >	256 (1.4)	54 (3.0)	264 (2.0)	54 (3.2)	261 (1.7)
Hawaii	67 (0.9) »	256 (1.0)	68 (0.9)	257 (0.9) >	35 (0.9) «	271 (1.5) >	36 (0.9)	269 (1.4)
Idaho	67 (2.6) >	273 (0.9)	74 (2.9) >	274 (0.8)	50 (2.8) »	280 (1.4)	39 (3.1)	277 (1.4)
Indiana	73 (3.1)	267 (1.3)	72 (3.2)	268 (1.4)	45 (3.0) >	279 (1.9)	34 (3.1)	277 (2.3)
Iowa	66 (4.4) >	283 (1.3) >	73 (3.5)	282 (1.2)	47 (4.5)	289 (1.6)	39 (3.8) >	286 (1.8)
Kentucky	76 (3.2)	262 (1.5) >	76 (2.9)	262 (1.3) >	53 (3.4)	271 (1.9)	45 (3.3)	270 (2.0)
Louisiana	78 (2.7) >	248 (1.9)	77 (3.1)	248 (1.9)	47 (4.0)	255 (2.9)	48 (3.8)	251 (2.6)
Maine	57 (4.3)	277 (1.5)	65 (3.3)	277 (1.3)	50 (4.0)	284 (1.8)	34 (3.2)	286 (2.2)
Maryland	59 (3.5)	260 (2.3)	64 (3.5)	262 (2.0)	51 (2.8)	275 (2.4)	46 (3.4)	270 (2.5)
Massachusetts	75 (2.8)	273 (1.2)	78 (3.1)	273 (1.3)	48 (3.4)	281 (1.8)	44 (3.4)	279 (2.4)
Michigan	65 (3.5)	266 (2.1)	69 (3.4)	266 (1.9)	52 (4.3)	269 (2.7)	44 (4.3)	266 (2.8)
Minnesota	67 (3.7) »	279 (1.5)	74 (2.6) >	280 (1.3)	46 (3.4) >	290 (1.5) >	31 (3.5)	288 (2.2)
Mississippi	90 (2.3)	245 (1.2)	89 (2.5)	245 (1.2)	56 (3.2)	249 (1.9)	58 (3.2)	247 (1.7)
Missouri	64 (3.7)	269 (1.3)	70 (2.5)	269 (1.3)	42 (2.9)	279 (1.9)	34 (3.7)	276 (2.1)
Nebraska	69 (3.8) >	275 (1.5)	77 (3.2) »	276 (1.4)	41 (4.1)	284 (1.7)	23 (2.9)	281 (2.0)
New Hampshire	59 (3.1)	275 (1.3)	64 (3.3)	277 (1.4) >	47 (3.4)	283 (1.6)	37 (3.5)	283 (1.4)
New Jersey	69 (4.3)	271 (2.1)	76 (3.1)	270 (2.0)	63 (3.9) >	274 (2.4)	55 (4.2)	274 (2.4)
New Mexico	75 (3.0) »	259 (0.9)	81 (2.4) »	260 (1.0) >	46 (3.1)	267 (1.6)	44 (2.9)	265 (1.3)
New York	73 (3.8) »	263 (2.5)	72 (3.3)	265 (2.7)	40 (3.1)	276 (2.9)	38 (3.4)	271 (3.3)
North Carolina	71 (2.6) >	257 (1.4) >	72 (2.8)	258 (1.4) >	48 (3.3)	266 (1.8)	42 (3.1)	262 (2.0)
North Dakota	68 (4.2) »	282 (1.3)	78 (3.7) >	282 (1.3)	48 (4.0) >	285 (1.3)	33 (3.9)	284 (1.8)
Ohio	63 (3.9)	267 (2.1)	75 (3.9)	269 (2.1)	39 (3.7)	275 (2.5)	37 (4.2)	275 (3.1)
Oklahoma	83 (2.9) »	266 (1.3)	77 (3.0) >	266 (1.4)	39 (4.2)	276 (2.3)	42 (3.5)	270 (2.2)
Pennsylvania	76 (2.9) >	269 (1.7)	80 (2.5)	270 (1.5)	52 (3.9)	276 (2.1)	43 (3.6)	275 (2.3)
Rhode Island	62 (1.1)	263 (1.0)	71 (0.9) »	267 (1.1) »	53 (1.0) »	273 (1.0)	46 (1.1) »	268 (1.1)
South Carolina	71 (2.8)	258 (1.6)	78 (3.3)	260 (1.5)	51 (3.3)	268 (1.9)	54 (3.3)	262 (1.8)
Tennessee	75 (3.2)	256 (1.9)	81 (2.6)	258 (1.7)	45 (3.6)	265 (2.1)	43 (3.6)	261 (2.1)
Texas	71 (3.0) >	261 (1.5)	80 (2.4) >	263 (1.4) >	61 (2.9) »	270 (2.0) >	49 (3.2)	268 (2.4) >
Utah	75 (2.3)	272 (0.8)	84 (1.8)	274 (0.9)	49 (2.0)	279 (1.3)	36 (2.6)	279 (1.5)
Virginia	82 (2.0) »	267 (1.4)	79 (2.2)	267 (1.5)	48 (2.1)	276 (1.9)	47 (2.8)	273 (2.5)
West Virginia	78 (3.1) »	258 (1.3)	80 (2.7) >	259 (1.2)	47 (2.9)	266 (1.6)	38 (3.5)	266 (1.9)
Wisconsin	64 (4.7)	277 (1.8)	71 (4.1)	278 (2.0)	52 (4.6) >	282 (2.0)	41 (4.7) >	282 (2.8)
Wyoming	66 (3.0) »	272 (1.0)	63 (3.1)	272 (1.1)	40 (2.7)	281 (1.4)	32 (3.1)	282 (1.5)
TERRITORIES								
Guam	66 (0.9) »	237 (1.2) >	60 (1.2) »	243 (1.3)	37 (1.2) »	252 (1.7)	43 (1.1) »	245 (1.5)
Virgin Islands	77 (0.9) »	221 (1.4) >	88 (0.6) »	220 (1.2)	58 (1.2) »	225 (1.2)	60 (1.0) »	221 (1.3)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 8.20 | Teachers' Reports on Placing Heavy Instructional Emphasis on Specific Mathematics Skills and Abilities (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Learning Mathematics Facts and Concepts		Learning Skills and Procedures Needed to Solve Problems		Developing Reasoning Ability to Solve Unique Problems		Learning How to Communicate Ideas in Mathematics Effectively	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	55 (4.2)	264 (2.2)	67 (3.9)	264 (2.0)	45 (3.4)	270 (2.8)	37 (3.6)	264 (3.1)
Northeast	57(12.8)	269 (6.6)!	69(13.7)	270 (4.8)!	47(10.7)	273 (8.4)!	25 (8.7)	260(15.8)!
Southeast	69 (9.1)	261 (2.7)	74 (8.2)	259 (2.9)	49 (6.8)	266 (5.3)	47 (8.0)	257 (4.4)!
Central	41 (7.7)	263 (5.6)	55 (6.2)	263 (4.5)	29 (4.7)	272 (5.5)	23 (6.1)	263 (7.9)!
West	53 (5.7)	264 (4.5)	69 (5.4)	265 (3.9)	54 (6.0)	270 (4.1)	46 (5.8)	271 (4.9)
STATES								
Alabama	60 (4.2)	254 (1.5)	70 (3.2)	254 (1.4)	48 (3.7)	259 (1.7)	43 (3.8)	258 (1.9)
Arizona	58 (3.0)	258 (1.8)	60 (2.7)	259 (1.8)	43 (2.7)	267 (2.6)	38 (2.9)	263 (2.7)
Arkansas	61 (3.5)	256 (1.2)	65 (3.7)	257 (1.3)	36 (3.1)	267 (1.7)	31 (3.4)	263 (2.3)
California	54 (2.9)	257 (1.9)	61 (3.4)	256 (1.9)	50 (2.9)	268 (2.2)	41 (3.4)	264 (2.5)
Colorado	52 (3.2)	265 (1.7)	64 (3.1)	267 (1.4)	50 (3.1)	273 (1.4)	45 (2.9)	273 (1.5)
Connecticut	53 (3.3)	271 (1.8)	61 (3.2)	272 (1.4)	47 (3.1)	282 (1.5)	41 (3.1)	279 (1.8)
Delaware	60 (1.8)	263 (1.3)	61 (1.7)	265 (1.4)	47 (1.5)	273 (1.6)	37 (1.4)	274 (2.0)
Dist. Columbia	62 (1.1)	233 (1.0)	68 (0.9)	233 (1.2)	65 (1.1)	237 (1.2)	63 (1.0)	237 (1.2)
Florida	62 (3.1)	257 (1.6)	68 (2.6)	258 (1.6)	46 (2.6)	267 (2.1)	43 (3.1)	262 (2.0)
Georgia	65 (2.8)	255 (1.6)	72 (2.5)	257 (1.7)	50 (2.4)	265 (1.9)	52 (3.2)	262 (1.9)
Hawaii	60 (0.9)	253 (1.1)	66 (1.0)	253 (1.1)	42 (0.8)	265 (1.4)	34 (1.0)	265 (1.6)
Idaho	59 (1.4)	271 (1.0)	65 (2.3)	273 (0.9)	39 (1.5)	280 (1.1)	41 (2.1)	276 (1.1)
Indiana	65 (3.6)	266 (1.7)	69 (3.3)	268 (1.9)	35 (3.4)	282 (2.9)	35 (3.7)	277 (3.0)
Iowa	54 (4.2)	277 (1.7)	64 (4.0)	278 (1.6)	38 (4.2)	284 (2.3)	28 (3.6)	284 (2.7)
Kentucky	72 (3.5)	257 (1.5)	69 (3.3)	257 (1.5)	44 (3.4)	265 (1.9)	44 (3.7)	263 (2.4)
Louisiana	64 (3.7)	245 (1.5)	68 (3.8)	246 (1.4)	38 (3.9)	252 (1.9)	40 (4.3)	249 (2.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	55 (2.8)	260 (1.9)	64 (2.7)	262 (1.8)	53 (2.8)	271 (2.3)	48 (3.2)	269 (2.3)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	58 (3.4)	265 (1.7)	64 (3.4)	266 (1.8)	43 (3.6)	272 (2.3)	35 (3.2)	270 (2.8)
Minnesota	47 (3.3)	277 (1.6)	62 (3.7)	276 (1.3)	36 (3.3)	283 (1.9)	29 (3.4)	282 (2.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	57 (2.3)	278 (1.6)	62 (3.2)	278 (1.4)	39 (3.1)	283 (1.3)	31 (2.9)	282 (1.1)
New Hampshire	53 (1.9)	273 (1.1)	62 (1.8)	272 (1.3)	45 (1.6)	282 (1.5)	37 (1.7)	281 (1.6)
New Jersey	70 (3.0)	270 (1.8)	72 (2.9)	269 (1.6)	49 (3.5)	279 (2.2)	49 (3.6)	276 (2.1)
New Mexico	61 (1.1)	257 (1.0)	70 (1.0)	257 (0.9)	48 (1.5)	263 (1.2)	40 (1.4)	264 (1.2)
New York	56 (3.6)	262 (2.0)	63 (3.6)	260 (2.0)	41 (3.0)	271 (2.5)	37 (3.5)	265 (2.7)
North Carolina	59 (3.4)	250 (1.6)	65 (3.4)	252 (1.4)	46 (3.2)	262 (1.7)	44 (3.1)	258 (1.7)
North Dakota	49 (3.7)	283 (2.1)	64 (2.6)	284 (1.7)	33 (2.9)	288 (1.7)	25 (2.9)	286 (2.1)
Ohio	59 (3.4)	265 (1.9)	67 (3.5)	266 (1.3)	42 (3.6)	273 (2.4)	36 (4.0)	270 (2.3)
Oklahoma	64 (3.7)	264 (1.5)	68 (3.5)	266 (1.4)	41 (3.4)	271 (2.0)	40 (4.0)	270 (1.9)
Pennsylvania	65 (3.4)	269 (1.8)	75 (2.2)	267 (1.8)	48 (3.8)	275 (2.5)	43 (3.5)	275 (2.9)
Rhode Island	59 (1.2)	260 (1.0)	65 (1.0)	261 (0.9)	43 (1.3)	273 (1.2)	37 (1.3)	268 (1.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	61 (3.1)	256 (1.8)	68 (3.4)	256 (1.7)	45 (3.1)	261 (2.2)	42 (3.1)	258 (2.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	64 (2.9)	265 (1.7)	75 (2.6)	264 (1.6)	46 (2.5)	276 (2.4)	46 (2.9)	272 (2.5)
West Virginia	62 (3.9)	256 (1.2)	69 (3.3)	257 (1.3)	44 (3.5)	266 (1.9)	38 (3.1)	262 (2.3)
Wisconsin	53 (4.1)	273 (1.8)	63 (3.6)	274 (1.9)	38 (2.9)	283 (1.8)	24 (3.0)	282 (2.9)
Wyoming	48 (1.9)	273 (0.9)	61 (1.8)	272 (0.9)	37 (1.2)	280 (1.2)	37 (1.1)	279 (1.0)
TERRITORIES								
Guam	42 (0.8)	230 (1.6)	37 (0.8)	242 (1.6)	15 (0.7)	258 (2.9)	19 (0.4)	244 (2.0)
Virgin Islands	43 (0.9)	215 (1.5)	55 (0.9)	218 (1.3)	30 (0.7)	223 (1.8)	36 (0.6)	224 (1.6)

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CHAPTER NINE

Instructional Approaches for the Nation and the States

47

Overview

Chapter Nine presents information about instructional materials and approaches currently used in mathematics classes. At grades 4 and 8, both students and teachers were asked questions about the use of textbooks, worksheets, and manipulatives, as well as the frequency of small-group work and mathematic projects. The data can be used to profile the range of methods and resources employed by teachers in providing mathematics instruction. Because a substantial percent of the high-school seniors reported that they were not taking a mathematics course, twelfth-grade teachers were not given questionnaires. The grade 12 student questionnaire results are presented both for the entire sample and for those who were enrolled in a mathematics course.

Class Size

TABLE 9.1 Teachers' Reports on the Number of Students in Their Classes, Grades 4 and 8

	1-20		21-25		26 or More	
	Percent of Students	**Average Proficiency**	**Percent of Students**	**Average Proficiency**	**Percent of Students**	**Average Proficiency**
Grade 4	20 (2.6)	220 (2.4)	36 (3.4)	216 (1.6)	43 (4.1)	220 (1.3)
Grade 8	26 (2.0)	266 (1.9)	28 (2.1)	274 (2.5)	46 (2.9)	267 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.2 | Teachers' Reports on the Number of Students in Their Classes

PUBLIC SCHOOLS	Grade 4 - 1992					
	1 to 20		21 to 25		26 or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	17 (2.9)	218 (3.5)	39 (4.0)	216 (1.7)	43 (4.8)	219 (1.5)
Northeast	12 (4.4)	218(15.5)!	52 (8.1)	219 (3.4)	37 (8.1)	222 (4.0)!
Southeast	18 (5.3)	206 (8.1)!	39 (4.1)	208 (3.5)	43 (7.8)	210 (1.8)
Central	18 (6.5)	231 (5.5)!	35(11.2)	223 (4.0)!	47(13.0)	223 (2.4)!
West	21 (5.9)	216 (5.1)!	33 (6.0)	215 (3.1)	46 (7.2)	222 (3.3)
STATES						
Alabama	8 (1.8)	197 (3.8)!	36 (5.0)	206 (3.0)	56 (5.0)	210 (2.2)
Arizona	8 (2.0)	208 (5.6)!	27 (3.4)	211 (2.6)	66 (3.9)	215 (1.3)
Arkansas	26 (3.6)	207 (1.8)	46 (3.9)	211 (1.8)	28 (4.3)	210 (2.6)
California	5 (1.2)	213 (6.9)!	9 (2.9)	208 (4.8)!	85 (3.0)	207 (1.9)
Colorado	15 (2.5)	218 (2.6)	43 (3.4)	220 (2.0)	42 (3.8)	220 (1.7)
Connecticut	33 (3.7)	228 (2.5)	54 (4.2)	228 (2.0)	13 (3.2)	221 (5.1)!
Delaware	18 (0.9)	204 (1.7)	37 (1.3)	216 (1.1)	45 (1.4)	224 (1.3)
Dist. Columbia	38 (1.0)	193 (1.2)	45 (0.8)	190 (1.2)	17 (0.9)	185 (2.6)
Florida	10 (1.4)	200 (4.5)	19 (2.8)	215 (3.2)	71 (3.3)	214 (1.3)
Georgia	18 (2.2)	203 (2.7)	44 (3.9)	216 (2.4)	39 (4.2)	219 (2.6)
Hawaii	14 (2.0)	203 (3.4)	25 (3.0)	209 (2.2)	61 (3.5)	216 (1.9)
Idaho	7 (2.2)	217 (2.8)!	39 (3.9)	221 (1.5)	53 (3.7)	221 (1.4)
Indiana	17 (3.0)	217 (2.7)	50 (4.4)	220 (1.6)	33 (4.4)	221 (1.8)
Iowa	29 (3.2)	227 (2.0)	47 (4.1)	231 (1.4)	25 (4.2)	229 (2.3)
Kentucky	18 (3.4)	209 (2.5)	50 (4.7)	215 (1.9)	32 (4.1)	214 (1.8)
Louisiana	12 (2.3)	198 (4.8)	40 (4.3)	207 (2.4)	47 (4.6)	201 (2.8)
Maine	51 (4.6)	230 (1.4)	43 (4.5)	232 (2.0)	6 (2.3)	227 (4.1)!
Maryland	16 (2.7)	224 (3.5)	30 (3.4)	219 (2.6)	55 (3.7)	216 (2.3)
Massachusetts	24 (3.7)	223 (3.3)	46 (4.5)	227 (1.9)	30 (5.1)	228 (2.6)
Michigan	8 (1.7)	222 (3.8)!	29 (4.0)	224 (3.0)	63 (4.3)	216 (2.2)
Minnesota	13 (2.3)	223 (3.3)	35 (4.3)	227 (2.4)	51 (4.4)	230 (1.5)
Mississippi	19 (2.6)	196 (3.0)	45 (3.8)	200 (1.9)	36 (3.4)	204 (2.6)
Missouri	19 (3.1)	217 (2.5)	46 (4.8)	224 (2.6)	35 (4.9)	222 (2.3)
Nebraska	36 (4.0)	223 (2.4)	42 (4.4)	223 (2.1)	22 (3.5)	233 (2.9)
New Hampshire	22 (3.0)	226 (1.8)	47 (3.9)	229 (1.7)	31 (3.9)	232 (2.9)
New Jersey	31 (4.4)	231 (2.9)	46 (5.0)	225 (2.4)	23 (4.4)	223 (4.2)
New Mexico	13 (2.8)	207 (3.0)!	44 (4.5)	210 (2.0)	44 (4.5)	215 (2.1)
New York	13 (2.4)	216 (4.9)	43 (4.1)	224 (2.2)	44 (4.1)	215 (2.1)
North Carolina	16 (2.5)	205 (3.7)	40 (3.9)	212 (1.7)	44 (4.0)	216 (1.9)
North Dakota	36 (4.2)	228 (1.5)	34 (4.3)	227 (1.6)	30 (3.8)	231 (1.4)
Ohio	10 (2.1)	219 (4.1)	48 (4.1)	219 (2.0)	42 (4.5)	217 (2.0)
Oklahoma	41 (3.7)	219 (1.5)	52 (4.0)	221 (1.5)	7 (2.5)	214 (3.6)!
Pennsylvania	16 (3.0)	224 (4.0)	39 (3.6)	226 (2.5)	46 (4.0)	222 (2.3)
Rhode Island	19 (3.1)	217 (2.4)	47 (4.3)	218 (1.6)	34 (3.5)	208 (3.9)
South Carolina	21 (2.6)	206 (2.5)	40 (3.8)	213 (2.0)	39 (4.0)	213 (2.0)
Tennessee	19 (2.8)	207 (2.5)	39 (4.4)	209 (2.4)	43 (4.4)	212 (2.4)
Texas	53 (4.4)	214 (1.8)	46 (4.3)	221 (2.5)	1 (0.8)	*** (***)
Utah	3 (1.1)	213 (6.1)!	20 (3.0)	219 (1.8)	78 (3.4)	225 (1.1)
Virginia	18 (3.3)	210 (3.2)	39 (3.6)	219 (2.2)	43 (3.7)	226 (2.5)
West Virginia	34 (3.4)	211 (1.9)	48 (3.6)	215 (1.9)	18 (3.1)	217 (2.7)
Wisconsin	26 (3.5)	228 (1.9)	36 (4.3)	228 (1.9)	38 (4.5)	230 (2.2)
Wyoming	28 (3.7)	225 (1.9)	50 (3.9)	224 (1.1)	22 (3.0)	226 (2.2)
TERRITORY						
Guam	22 (1.0)	192 (2.3)	57 (1.1)	195 (1.2)	21 (0.7)	184 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.2 | Teachers' Reports on the Number of Students in Their Classes (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	1 to 20		21 to 25		26 or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (2.1)	262 (2.3)	29 (2.3)	273 (2.6)	49 (3.2)	267 (1.3)
Northeast	18 (3.5)	253 (4.5)	35 (5.5)	277 (8.1)	47 (6.1)	265 (3.7)
Southeast	23 (3.7)	257 (4.3)	22 (5.2)	261 (3.9)!	56 (7.5)	263 (1.7)
Central	26 (4.9)	273 (3.8)!	36 (5.6)	276 (4.2)!	38 (6.9)	276 (2.9)
West	21 (4.1)	260 (4.4)	24 (2.8)	274 (3.1)	54 (4.8)	267 (2.5)
STATES						
Alabama	23 (2.8)	243 (3.1)	30 (3.2)	250 (4.1)	47 (3.9)	257 (2.0)
Arizona	13 (1.7)	257 (2.8)	27 (2.6)	258 (2.2)	59 (2.8)	268 (1.8)
Arkansas	41 (3.3)	253 (1.8)	37 (2.3)	258 (2.1)	22 (2.5)	258 (2.2)
California	8 (1.6)	261 (8.5)	12 (1.9)	267 (4.1)	80 (2.6)	261 (1.7)
Colorado	19 (2.1)	270 (2.5)	28 (2.2)	268 (2.2)	52 (2.7)	274 (1.5)
Connecticut	40 (2.6)	269 (1.7)	39 (2.2)	274 (2.6)	21 (2.4)	284 (2.7)
Delaware	13 (0.8)	241 (3.2)	30 (0.9)	260 (1.4)	57 (1.3)	269 (1.0)
Dist. Columbia	41 (1.4)	231 (2.1)	34 (1.3)	233 (1.9)	24 (1.1)	243 (1.8)
Florida	19 (1.8)	249 (2.6)	22 (2.1)	257 (2.6)	59 (2.9)	264 (1.8)
Georgia	21 (2.2)	244 (3.5)	24 (2.4)	259 (2.7)	55 (3.1)	263 (1.6)
Hawaii	23 (0.8)	235 (2.3)	29 (1.0)	253 (1.6)	47 (1.0)	271 (1.1)
Idaho	23 (2.2)	271 (2.0)	27 (1.9)	271 (1.7)	50 (2.3)	279 (1.3)
Indiana	23 (2.7)	266 (2.5)	33 (2.6)	273 (2.0)	43 (2.7)	270 (1.9)
Iowa	33 (3.2)	281 (1.7)	38 (3.1)	284 (1.8)	29 (3.1)	284 (2.1)
Kentucky	20 (2.5)	250 (3.3)	27 (2.5)	262 (2.4)	53 (2.8)	267 (1.7)
Louisiana	18 (2.6)	254 (4.0)	28 (2.9)	250 (2.7)	54 (3.3)	249 (2.2)
Maine	54 (3.6)	277 (1.6)	34 (2.7)	279 (1.6)	13 (2.3)	282 (2.5)
Maryland	15 (1.3)	255 (3.6)	23 (1.9)	265 (2.4)	63 (2.3)	268 (2.0)
Massachusetts	34 (2.9)	265 (2.2)	35 (2.6)	275 (2.3)	32 (2.8)	277 (2.7)
Michigan	14 (1.5)	264 (4.1)	27 (2.8)	273 (3.4)	58 (3.3)	265 (2.0)
Minnesota	15 (2.8)	271 (2.4)	23 (3.1)	278 (2.1)	61 (3.5)	286 (1.6)
Mississippi	24 (2.7)	238 (3.1)	28 (2.4)	248 (3.2)	48 (3.0)	248 (1.9)
Missouri	27 (2.6)	261 (2.0)	34 (2.7)	272 (2.0)	39 (3.0)	277 (2.2)
Nebraska	43 (3.4)	277 (1.9)	39 (3.3)	276 (2.0)	18 (2.5)	280 (3.3)
New Hampshire	40 (2.6)	275 (1.6)	37 (2.4)	276 (1.8)	23 (2.0)	285 (2.7)
New Jersey	45 (4.0)	274 (2.5)	31 (2.8)	273 (3.3)	25 (3.3)	271 (3.5)
New Mexico	22 (2.1)	257 (2.2)	30 (1.9)	258 (1.6)	49 (2.1)	261 (1.4)
New York	25 (2.9)	269 (3.2)	28 (2.5)	280 (2.8)	46 (3.3)	255 (3.3)
North Carolina	29 (2.9)	251 (2.5)	34 (2.3)	256 (2.2)	37 (2.9)	264 (2.1)
North Dakota	38 (4.1)	280 (2.6)	28 (3.1)	283 (1.5)	34 (3.1)	286 (1.5)
Ohio	20 (2.7)	269 (4.0)	35 (2.8)	269 (2.5)	44 (3.3)	270 (3.2)
Oklahoma	40 (3.0)	264 (1.8)	28 (2.4)	268 (2.0)	31 (3.4)	271 (2.4)
Pennsylvania	18 (1.8)	257 (2.8)	32 (2.5)	275 (2.4)	49 (3.1)	274 (2.1)
Rhode Island	28 (1.0)	259 (1.5)	49 (1.3)	266 (1.1)	24 (1.1)	271 (1.7)
South Carolina	32 (2.3)	248 (2.0)	30 (2.0)	265 (2.1)	38 (2.0)	268 (1.9)
Tennessee	15 (2.0)	236 (3.4)	20 (2.7)	258 (2.5)	65 (3.0)	263 (1.8)
Texas	32 (2.3)	260 (2.3)	37 (2.4)	266 (1.8)	31 (2.7)	267 (3.2)
Utah	9 (1.5)	255 (5.1)	14 (1.4)	271 (2.4)	77 (1.8)	276 (1.0)
Virginia	24 (1.7)	258 (2.0)	34 (2.1)	267 (2.1)	42 (2.6)	273 (2.0)
West Virginia	34 (2.7)	255 (1.8)	32 (2.5)	256 (2.1)	34 (3.1)	264 (1.8)
Wisconsin	35 (4.9)	276 (3.7)	32 (3.6)	281 (2.1)	33 (3.5)	278 (2.2)
Wyoming	37 (2.9)	268 (1.7)	34 (2.8)	277 (1.3)	29 (2.4)	280 (1.6)
TERRITORIES						
Guam	10 (1.1)	221 (2.4)	39 (1.7)	231 (1.9)	52 (1.4)	240 (1.6)
Virgin Islands	25 (1.0)	223 (1.8)	29 (1.2)	223 (1.7)	47 (0.8)	220 (1.4)

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Ability Grouping

TABLE 9.3 Teachers' Reports on the Prevalence of Ability Grouping, Grades 4 and 8

		Yes, Students Grouped by Ability		No, Students Not Grouped by Ability	
	Assessment Years	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	1992	25 (2.6)	221 (2.3)	75 (2.6)	217 (1.0)>
	1990	28 (4.0)	220 (2.5)	72 (4.0)	212 (1.1)
Grade 8	1992	58 (2.4)	274 (1.5)	42 (2.4)	261 (1.2)>
	1990	61 (3.8)	269 (2.1)	39 (3.8)	254 (2.3)

>The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

TABLE 9.4 | Teachers' Reports on the Prevalence of Ability Grouping

PUBLIC SCHOOLS	Grade 4 - 1992			
	Yes, Students Grouped by Ability		No, Students Not Grouped by Ability	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	27 (3.0)	220 (2.5)	73 (3.0)	216 (1.2)
Northeast	40 (7.1)	222 (4.6)	60 (7.1)	219 (3.1)
Southeast	18 (3.4)	201 (5.3)!	82 (3.4)	209 (2.1)
Central	28 (7.3)	228 (2.8)!	72 (7.3)	222 (2.3)
West	24 (5.7)	224 (6.7)!	76 (5.7)	216 (2.1)
STATES				
Alabama	19 (3.6)	200 (2.9)	81 (3.6)	209 (1.7)
Arizona	23 (3.9)	219 (3.0)	77 (3.9)	213 (1.3)
Arkansas	20 (3.3)	211 (2.8)	80 (3.3)	209 (1.2)
California	14 (2.4)	218 (5.6)	86 (2.4)	206 (1.7)
Colorado	27 (4.0)	222 (2.5)	73 (4.0)	219 (1.5)
Connecticut	25 (3.9)	233 (2.5)	75 (3.9)	226 (1.6)
Delaware	57 (0.9)	219 (1.1)	43 (0.9)	215 (1.4)
Dist. Columbia	22 (0.8)	191 (1.8)	78 (0.8)	191 (1.0)
Florida	17 (2.6)	215 (3.2)	83 (2.6)	212 (1.4)
Georgia	32 (4.7)	211 (2.5)	68 (4.7)	215 (2.2)
Hawaii	43 (4.9)	212 (2.1)	57 (4.9)	214 (2.0)
Idaho	6 (1.6)	218 (3.2)!	94 (1.6)	220 (1.0)
Indiana	22 (3.5)	224 (2.5)	78 (3.5)	218 (1.1)
Iowa	12 (2.4)	227 (3.7)!	88 (2.4)	229 (1.1)
Kentucky	25 (4.3)	215 (2.9)	75 (4.3)	213 (1.1)
Louisiana	22 (3.7)	207 (3.5)	78 (3.7)	201 (1.7)
Maine	19 (3.6)	227 (3.2)	81 (3.6)	231 (1.1)
Maryland	58 (4.1)	222 (1.7)	42 (4.1)	212 (2.5)
Massachusetts	18 (3.8)	227 (3.0)!	82 (3.8)	226 (1.5)
Michigan	10 (2.4)	219 (4.5)!	90 (2.4)	219 (2.0)
Minnesota	38 (4.1)	225 (1.9)	62 (4.1)	228 (1.5)
Mississippi	30 (4.1)	195 (2.3)	70 (4.1)	202 (1.7)
Missouri	16 (3.2)	222 (4.5)!	84 (3.2)	222 (1.3)
Nebraska	25 (3.2)	229 (2.2)	75 (3.2)	223 (1.7)
New Hampshire	26 (4.4)	233 (2.3)	74 (4.4)	228 (1.3)
New Jersey	39 (4.8)	232 (2.2)	61 (4.8)	224 (2.2)
New Mexico	11 (3.1)	213 (4.3)!	89 (3.1)	212 (1.3)
New York	36 (4.8)	212 (2.3)	64 (4.8)	220 (1.9)
North Carolina	21 (3.8)	216 (3.1)	79 (3.8)	211 (1.2)
North Dakota	6 (2.4)	224 (4.2)!	94 (2.4)	228 (0.8)
Ohio	24 (4.4)	224 (3.0)	76 (4.4)	215 (1.4)
Oklahoma	17 (2.7)	221 (2.7)	83 (2.7)	219 (1.2)
Pennsylvania	42 (4.3)	226 (2.2)	58 (4.3)	221 (1.8)
Rhode Island	25 (4.4)	223 (3.0)	75 (4.4)	211 (1.9)
South Carolina	33 (3.9)	211 (2.0)	67 (3.9)	212 (1.4)
Tennessee	20 (3.2)	206 (2.4)	80 (3.2)	211 (1.7)
Texas	28 (4.4)	219 (3.4)	72 (4.4)	216 (1.8)
Utah	27 (3.8)	225 (2.6)	73 (3.8)	222 (1.1)
Virginia	29 (3.7)	222 (2.9)	71 (3.7)	219 (1.6)
West Virginia	23 (3.2)	213 (2.3)	77 (3.2)	214 (1.4)
Wisconsin	28 (4.4)	231 (2.2)	72 (4.4)	227 (1.3)
Wyoming	10 (2.8)	218 (3.3)!	90 (2.8)	225 (1.1)
TERRITORY				
Guam	12 (0.9)	183 (3.0)	88 (0.9)	192 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 9.4 | Teachers' Reports on the Prevalence of Ability Grouping (continued)

PUBLIC SCHOOLS	Grade 8 - 1992				Grade 8 - 1990			
	Yes, Students Grouped by Ability		No, Students Not Grouped by Ability		Yes, Students Grouped by Ability		No, Students Not Grouped by Ability	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	61 (2.6)	274 (1.6)	39 (2.6)	258 (1.4)	63 (4.0)	269 (2.2)	38 (4.0)	253 (2.6)
Northeast	78 (5.5)	273 (3.8)	22 (5.5)	249 (4.8)!	71(10.1)	272 (3.4)	29(10.1)	261 (9.5)!
Southeast	50 (4.3)	268 (2.6)	50 (4.3)	255 (2.1)	58 (8.0)	265 (5.2)	42 (8.0)	247 (2.9)!
Central	60 (5.4)	282 (2.8)	40 (5.4)	263 (3.9)	60 (5.7)	270 (2.5)	40 (5.7)	252 (5.4)
West	59 (5.0)	273 (3.1)	41 (5.0)	260 (1.7)	64 (8.3)	269 (4.3)	36 (8.3)	255 (6.0)!
STATES								
Alabama	49 (3.7)	255 (2.2)	51 (3.7)	249 (2.5)	60 (4.1)	256 (1.6)	40 (4.1)	249 (2.0)
Arizona	57 (3.7) <	271 (1.8) »	43 (3.7) >	256 (2.4)	71 (2.5)	263 (1.5)	29 (2.5)	250 (2.7)
Arkansas	57 (4.0)	260 (1.7)	43 (4.0)	250 (1.5)	50 (3.3)	262 (1.6)	50 (3.3)	253 (1.4)
California	61 (3.5) <	269 (2.0) >	39 (3.5) >	249 (3.2)	72 (3.4)	262 (1.7)	28 (3.4)	242 (2.4)
Colorado	57 (3.8)	278 (1.5) >	43 (3.8)	262 (2.1)	66 (2.9)	272 (1.2)	34 (2.9)	257 (1.7)
Connecticut	75 (3.5) <	278 (1.2) >	25 (3.5) >	260 (3.3)	86 (2.6)	273 (1.2)	14 (2.6)	257 (3.5)
Delaware	84 (0.5)	264 (1.2)	16 (0.5)	252 (1.6) »	82 (1.0)	266 (1.2)	18 (1.0)	239 (1.5)
Dist. Columbia	42 (1.0) «	248 (1.7) »	58 (1.0) »	224 (1.3)	51 (1.1)	237 (1.6)	49 (1.1)	225 (0.9)
Florida	69 (2.8) <	264 (1.9)	31 (2.8) >	250 (2.4)	77 (3.0)	259 (1.7)	23 (3.0)	248 (1.8)
Georgia	74 (3.2)	260 (1.6)	26 (3.2)	253 (2.7)	79 (2.5)	261 (1.4)	21 (2.5)	250 (3.2)
Hawaii	81 (0.6) «	261 (1.0) »	19 (0.6) »	243 (1.7) >	93 (0.4)	253 (0.8)	7 (0.4)	233 (3.0)
Idaho	67 (3.5)	274 (1.1)	33 (3.5)	276 (1.8) >	70 (2.0)	272 (1.0)	30 (2.0)	269 (1.4)
Indiana	63 (3.9)	276 (1.7)	37 (3.9)	260 (1.6)	69 (4.1)	272 (1.6)	31 (4.1)	260 (2.5)
Iowa	48 (4.7)	285 (1.4) »	52 (4.7)	281 (1.6)	52 (3.8)	277 (1.6)	48 (3.8)	278 (1.8)
Kentucky	61 (3.9)	266 (1.9) >	39 (3.9)	256 (1.5)	61 (3.8)	260 (1.6)	39 (3.8)	253 (1.8)
Louisiana	43 (4.4)	257 (2.7)	57 (4.4)	244 (1.8)	52 (4.2)	254 (1.9)	48 (4.2)	239 (1.7)
Maine	50 (4.3)	283 (1.7)	50 (4.3)	274 (1.7)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	84 (2.5) «	269 (1.6) >	16 (2.5) »	249 (2.7)	93 (1.1)	263 (1.7)	7 (1.1)	240 (3.6)
Massachusetts	81 (2.8)	276 (1.5)	19 (2.8)	257 (4.1)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	58 (4.0)	274 (2.1)	42 (4.0)	257 (2.7)	64 (3.9)	270 (1.7)	36 (3.9)	255 (2.2)
Minnesota	52 (4.1)	287 (1.6) »	48 (4.1)	275 (1.3)	63 (4.0)	277 (1.3)	37 (4.0)	272 (1.6)
Mississippi	44 (3.5)	255 (2.1)	56 (3.5)	239 (1.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	56 (4.0)	275 (1.4)	44 (4.0)	265 (1.7)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	51 (4.5)	279 (1.7)	49 (4.5)	276 (1.8)	49 (2.4)	275 (1.3)	51 (2.4)	277 (1.2)
New Hampshire	57 (3.9) «	281 (1.4) »	43 (3.9) »	273 (1.4) >	78 (1.0)	274 (1.2)	22 (1.0)	268 (1.2)
New Jersey	72 (3.7)	278 (1.9)	28 (3.7)	255 (3.4)	78 (3.2)	276 (1.3)	22 (3.2)	248 (3.2)
New Mexico	65 (3.5)	264 (1.2)	35 (3.5)	252 (1.7)	65 (1.1)	262 (1.1)	35 (1.1)	248 (1.3)
New York	67 (3.7)	269 (2.4)	33 (3.7)	258 (3.7) >	73 (3.6)	265 (2.0)	27 (3.6)	247 (3.2)
North Carolina	70 (3.4) <	261 (1.3) »	30 (3.4) >	250 (2.3) >	80 (3.0)	253 (1.5)	20 (3.0)	242 (1.7)
North Dakota	25 (2.9)	288 (2.8)	75 (2.9)	281 (1.3)	30 (2.0)	287 (2.5)	70 (2.0)	279 (1.6)
Ohio	55 (4.2) <	277 (2.3) >	45 (4.2) >	258 (1.9)	68 (3.6)	269 (1.6)	32 (3.6)	258 (2.2)
Oklahoma	55 (4.3)	271 (1.5)	45 (4.3)	263 (1.8)	56 (3.7)	268 (1.4)	44 (3.7)	258 (2.2)
Pennsylvania	69 (3.5) <	275 (1.7)	31 (3.5) >	260 (3.4)	81 (3.1)	271 (1.5)	19 (3.1)	250 (3.5)
Rhode Island	75 (0.7) «	269 (0.9) »	25 (0.7) »	252 (1.8) »	89 (0.7)	264 (0.7)	11 (0.7)	237 (2.1)
South Carolina	80 (3.3)	262 (1.3)	20 (3.3)	254 (2.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	56 (3.8)	261 (1.9)	44 (3.8)	255 (2.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	50 (3.3) <	272 (2.3) »	50 (3.3) >	256 (1.7)	63 (3.7)	257 (1.7)	37 (3.7)	255 (2.5)
Utah	81 (2.4)	275 (0.9)	19 (2.4)	269 (2.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	66 (3.1) «	272 (1.5) >	34 (3.1) »	259 (1.7)	80 (2.4)	266 (1.9)	20 (2.4)	254 (2.8)
West Virginia	64 (3.4)	263 (1.5)	36 (3.4)	251 (1.7)	60 (4.0)	260 (1.7)	40 (4.0)	251 (1.5)
Wisconsin	44 (4.9)	285 (2.0)	56 (4.9)	274 (2.0)	52 (4.3)	281 (1.5)	48 (4.3)	269 (2.0)
Wyoming	61 (2.9)	277 (1.2) >	39 (2.9)	271 (1.4)	66 (1.7)	273 (0.9)	34 (1.7)	272 (1.0)
TERRITORIES								
Guam	85 (0.7) <	238 (1.3) »	15 (0.7) >	217 (2.3) «	87 (0.4)	232 (0.9)	13 (0.4)	233 (2.8)
Virgin Islands	55 (0.8) »	227 (1.3)	45 (0.8) «	215 (1.2)	45 (0.6)	229 (1.2)	55 (0.6)	213 (1.2)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 9.5 Teachers' Reports on the Ability Levels of Their Students' Classes, Grades 4 and 8

	Assessment Years	Primarily High Ability		Primarily Average Ability		Primarily Low Ability		Widely Mixed Ability	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4									
Nation	1992	9 (1.3)	238 (2.5)	42 (2.1)	222 (1.3)>	12 (1.1)	196 (2.0)	38 (2.5)	217 (1.2)
	1990	11 (1.8)	236 (5.1)	36 (2.5)	215 (1.7)	12 (1.8)	202 (3.7)	41 (3.9)	212 (1.6)
White	1992	10 (1.6)	241 (2.9)	44 (2.5)	227 (1.3)>	9 (1.2)	210 (2.5)	37 (3.1)	224 (1.4)>
	1990	12 (2.2)	240 (5.9)	36 (2.9)	220 (1.9)	10 (1.8)	210 (4.2)	42 (4.4)	218 (1.7)
Black	1992	2 (0.7)	206 (5.4)	36 (3.6)	199 (2.4)	21 (2.6)	176 (2.9)<	42 (3.6)	194 (2.4)
	1990	6 (1.9)	208 (4.6)	32 (4.6)	189 (4.1)	20 (5.0)	191 (4.8)	42 (7.8)	191 (3.5)
Hispanic	1992	7 (1.9)	212 (7.6)	36 (3.3)	206 (2.2)	22 (2.8)	184 (3.1)	36 (3.3)	203 (1.9)
	1990	6 (1.6)	222 (8.6)	44 (4.7)	204 (2.6)	18 (3.3)	184 (5.5)	32 (5.5)	196 (3.0)
Asian/Pacific Islander	1992	21 (5.0)	243 (5.0)	39 (5.8)	235 (6.1)	6 (2.9)	194 (7.7)<	35 (5.1)	230 (4.7)
	1990	22 (5.5)	236 (8.3)	34 (6.7)	228(10.2)	10 (4.3)	234(10.1)	34 (6.7)	218 (7.4)
American Indian	1992	8 (2.7)	202(17.1)	44 (7.8)	213 (4.8)	13 (4.0)	196 (9.9)	35 (7.3)	208 (4.9)
	1990	4 (2.1)	231(16.5)	22 (5.5)	210 (7.2)	16 (6.7)	210(16.7)	57 (8.1)	204 (6.0)
Male	1992	9 (1.5)	240 (3.6)	41 (2.2)	223 (1.6)	12 (1.3)	196 (2.6)	38 (2.7)	218 (1.2)>
	1990	10 (1.9)	239 (5.7)	35 (2.7)	217 (1.9)	14 (2.3)	203 (4.9)	41 (4.2)	212 (2.1)
Female	1992	9 (1.3)	235 (2.7)	42 (2.3)	221 (1.4)>	12 (1.1)	196 (2.2)	37 (2.5)	215 (1.8)
	1990	12 (1.9)	234 (5.6)	37 (2.7)	212 (2.4)	10 (1.6)	200 (3.8)	41 (3.9)	213 (1.9)
Grade 8									
Nation	1992	23 (1.3)	299 (1.8)>	38 (1.9)	265 (1.3)	18 (1.7)	244 (1.9)	21 (2.1)	261 (1.6)
	1990	25 (1.8)	288 (2.3)	34 (2.6)	260 (2.0)	16 (2.1)	244 (3.5)	25 (3.9)	256 (3.1)
White	1992	26 (1.6)	304 (1.8)>	38 (2.1)	274 (1.4)>	15 (1.9)	254 (2.2)	20 (2.2)	269 (1.6)
	1990	26 (2.0)	292 (2.4)	36 (3.2)	266 (2.1)	14 (2.1)	252 (3.7)	24 (4.2)	263 (3.1)
Black	1992	12 (1.8)	261 (5.6)	41 (3.4)	239 (2.1)	27 (4.1)	226 (2.4)	20 (3.2)	236 (3.5)
	1990	18 (3.2)	272 (5.9)	36 (4.2)	235 (4.9)	24 (5.3)	226 (4.9)	21 (6.0)	238 (4.0)
Hispanic	1992	13 (1.4)	280 (4.3)	42 (3.7)	248 (1.9)	25 (2.1)	230 (2.4)	20 (3.9)	244 (3.6)
	1990	20 (2.7)	267 (5.9)	28 (5.9)	246 (3.9)	19 (3.7)	231 (8.5)	34 (7.7)	248 (5.1)
Asian/Pacific Islander	1992	48 (4.8)	308 (4.2)	36 (3.7)>	276 (5.8)	6 (2.2)	254 (9.4)	10 (2.4)	264 (7.1)
	1990	58 (7.0)	294 (5.7)	18 (4.4)	267 (7.8)	14 (5.2)	236(10.8)	10 (7.0)	248(14.2)
American Indian	1992	6 (2.5)	274(12.4)	29 (6.1)	258 (6.1)	19 (4.2)	245 (8.9)	46 (7.3)	253 (3.4)
	1990	4 (5.8)	283(10.7)	25(32.4)	272 (6.5)	8(13.9)	237(15.4)	62(51.1)	237(29.1)
Male	1992	23 (1.2)	299 (2.1)	37 (2.0)	266 (1.7)	20 (1.9)	244 (1.9)	20 (2.0)	262 (2.2)
	1990	24 (1.8)	291 (2.9)	34 (3.0)	262 (2.5)	16 (2.5)	245 (3.7)	26 (4.6)	256 (3.4)
Female	1992	24 (1.5)	299 (2.1)>	39 (1.9)	264 (1.4)>	15 (1.7)	245 (2.5)	22 (2.2)	261 (1.6)
	1990	25 (2.1)	286 (2.3)	35 ([illegible]4)	258 (2.1)	16 (2.0)	242 (4.1)	24 (3.6)	257 (3.5)

>The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.6 | Teachers' Reports on the Ability Levels of Their Students' Classes

PUBLIC SCHOOLS	Grade 4 - 1992							
	Primarily High Ability		Primarily Average Ability		Primarily Low Ability		Ability Widely Mixed	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	8 (1.4)	240 (3.2)	39 (2.3)	220 (1.4)	13 (1.2)	195 (2.0)	40 (2.7)	217 (1.4)
Northeast	15 (5.1)	243 (4.5)!	38 (4.6)	223 (4.2)	14 (2.3)	190 (3.4)	34 (4.2)	220 (2.9)
Southeast	3 (1.1)	*** (***)	36 (5.0)	211 (2.6)	14 (2.3)	188 (3.4)	47 (5.3)	209 (2.5)
Central	9 (2.3)	234 (5.3)!	43 (4.6)	226 (3.0)	10 (2.8)	211 (5.6)!	38 (6.4)	222 (2.5)
West	7 (2.3)	242(13.5)!	39 (3.9)	221 (3.1)	13 (2.1)	194 (3.7)	40 (4.7)	218 (1.8)
STATES								
Alabama	5 (1.5)	225 (5.8)!	41 (3.7)	212 (2.4)	17 (2.4)	190 (2.4)	37 (3.7)	208 (2.0)
Arizona	9 (1.5)	237 (3.2)	33 (2.9)	216 (2.0)	13 (2.2)	200 (2.7)	45 (3.7)	212 (1.7)
Arkansas	8 (1.7)	224 (2.8)!	46 (3.4)	210 (1.5)	12 (1.7)	194 (3.2)	34 (3.1)	210 (1.6)
California	6 (1.6)	239 (3.6)!	35 (2.7)	209 (2.4)	13 (2.4)	193 (3.6)	45 (3.7)	205 (2.0)
Colorado	6 (1.2)	239 (3.2)	33 (3.0)	222 (1.7)	12 (1.9)	205 (2.9)	49 (3.7)	220 (1.8)
Connecticut	10 (2.0)	249 (3.4)	32 (2.9)	226 (1.6)	9 (1.4)	208 (4.2)	49 (3.9)	227 (1.9)
Delaware	17 (0.6)	244 (1.8)	41 (1.0)	219 (1.0)	21 (1.1)	196 (1.9)	22 (0.9)	216 (1.9)
Dist. Columbia	2 (0.1)	*** (***)	32 (1.0)	192 (1.3)	21 (0.7)	184 (1.5)	45 (1.1)	192 (1.5)
Florida	6 (1.3)	243 (4.0)!	43 (2.5)	214 (1.8)	11 (1.3)	196 (3.3)	40 (3.1)	210 (1.6)
Georgia	7 (1.5)	236 (3.2)!	40 (2.6)	219 (1.9)	20 (2.6)	191 (2.4)	34 (3.3)	216 (2.5)
Hawaii	11 (1.6)	235 (3.2)	36 (2.5)	217 (1.6)	20 (2.4)	195 (2.2)	32 (3.4)	212 (2.2)
Idaho	7 (1.5)	220 (3.3)!	41 (3.0)	220 (1.6)	7 (1.8)	212 (3.0)!	45 (3.4)	222 (1.2)
Indiana	10 (1.5)	238 (3.2)	41 (3.6)	220 (1.5)	11 (2.4)	207 (3.0)!	38 (3.9)	218 (1.7)
Iowa	6 (1.5)	240 (3.8)!	43 (3.7)	228 (1.7)	7 (1.6)	214 (3.3)!	43 (4.1)	231 (1.4)
Kentucky	8 (1.8)	234 (5.3)!	33 (3.3)	215 (1.8)	19 (2.6)	200 (2.5)	40 (4.1)	214 (1.7)
Louisiana	7 (1.5)	230 (3.7)!	39 (2.9)	207 (2.2)	18 (2.3)	184 (3.3)	35 (3.3)	201 (2.5)
Maine	4 (1.0)	247 (5.4)!	43 (3.9)	231 (1.4)	11 (1.8)	216 (3.7)	42 (4.4)	232 (1.6)
Maryland	20 (1.9)	243 (2.4)	36 (2.3)	217 (1.8)	18 (2.2)	201 (2.9)	26 (2.9)	212 (2.4)
Massachusetts	8 (1.8)	249 (3.0)!	39 (3.3)	228 (1.7)	7 (1.7)	199 (3.6)!	45 (4.3)	225 (2.1)
Michigan	6 (1.8)	243 (5.2)!	37 (3.6)	225 (1.4)	8 (1.7)	195 (6.7)!	49 (3.9)	215 (2.2)
Minnesota	12 (1.6)	238 (3.7)	41 (3.4)	227 (1.6)	10 (1.6)	216 (3.3)	37 (3.8)	227 (2.1)
Mississippi	3 (0.8)	234 (4.9)!	39 (3.4)	206 (2.4)	21 (2.8)	185 (2.1)	37 (3.2)	199 (2.0)
Missouri	7 (1.5)	242 (4.0)!	38 (3.1)	227 (1.3)	11 (2.0)	204 (4.8)!	44 (3.9)	218 (2.3)
Nebraska	10 (1.7)	247 (3.2)	36 (3.1)	227 (1.6)	15 (2.5)	211 (2.4)	39 (3.6)	223 (2.3)
New Hampshire	9 (2.2)	248 (3.8)!	39 (3.2)	228 (1.6)	8 (1.3)	217 (3.2)	45 (3.9)	228 (2.0)
New Jersey	14 (2.3)	249 (3.2)	39 (3.7)	226 (2.2)	14 (2.0)	210 (3.9)	34 (4.1)	226 (2.4)
New Mexico	4 (1.6)	226 (6.8)!	46 (4.4)	214 (1.8)	12 (2.5)	201 (3.4)!	39 (4.3)	212 (1.8)
New York	11 (1.9)	235 (3.7)	34 (3.3)	221 (2.1)	15 (2.1)	189 (3.1)	40 (4.2)	219 (2.2)
North Carolina	8 (1.8)	236 (3.5)!	35 (3.0)	214 (1.6)	16 (2.0)	195 (2.4)	41 (3.1)	213 (1.6)
North Dakota	3 (1.5)	*** (***)	52 (4.0)	228 (1.0)	2 (1.0)	*** (***)	43 (4.4)	227 (1.5)
Ohio	9 (1.8)	239 (3.9)	39 (3.1)	218 (1.8)	9 (1.6)	201 (3.5)	43 (3.6)	215 (1.7)
Oklahoma	6 (1.3)	235 (3.6)!	48 (3.9)	222 (1.3)	11 (2.1)	207 (2.6)	35 (3.7)	218 (1.3)
Pennsylvania	15 (2.0)	245 (3.0)	38 (3.0)	223 (1.6)	14 (1.7)	206 (3.2)	33 (3.6)	220 (2.3)
Rhode Island	8 (1.8)	239 (4.4)!	41 (3.0)	215 (2.5)	13 (1.7)	201 (3.4)	38 (3.7)	211 (2.2)
South Carolina	7 (1.3)	237 (3.6)	35 (2.8)	216 (1.6)	17 (2.0)	190 (2.3)	41 (3.9)	212 (2.0)
Tennessee	5 (1.1)	229 (4.1)!	39 (3.6)	212 (2.0)	16 (2.2)	191 (2.9)	40 (3.7)	213 (1.8)
Texas	8 (1.7)	244 (4.2)!	34 (2.6)	223 (2.1)	18 (2.1)	199 (2.7)	40 (3.8)	215 (2.0)
Utah	10 (1.7)	240 (3.3)	38 (3.2)	223 (1.3)	12 (1.7)	209 (3.2)	40 (3.5)	223 (1.3)
Virginia	14 (1.7)	242 (3.7)	43 (3.3)	221 (1.8)	11 (1.6)	194 (1.9)	32 (3.3)	217 (2.1)
West Virginia	8 (1.9)	227 (2.6)!	46 (3.0)	216 (1.5)	14 (2.5)	199 (2.8)	32 (2.9)	212 (2.0)
Wisconsin	11 (2.0)	245 (3.6)!	38 (3.5)	227 (1.5)	13 (1.8)	217 (3.6)	39 (3.7)	228 (1.8)
Wyoming	6 (1.5)	233 (3.6)!	42 (3.7)	225 (1.4)	7 (2.0)	210 (3.5)!	45 (3.2)	226 (1.2)
TERRITORY								
Guam	1 (0.3)	*** (***)	23 (1.1)	199 (1.6)	19 (1.2)	178 (1.8)	57 (1.5)	193 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.6 | Teachers' Reports on the Ability Levels of Their Students' Classes (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Primarily High Ability		Primarily Average Ability		Primarily Low Ability		Ability Widely Mixed	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (1.3)	300 (1.9)	38 (2.0)	264 (1.4)	18 (1.9)	244 (1.9)	20 (2.3)	259 (2.0)
Northeast	28 (1.3)	303 (4.8)	38 (2.7)	264 (4.2)	23 (2.8)	243 (3.5)	11 (4.0)	244 (6.7)!
Southeast	19 (2.5)	291 (1.8)	40 (2.8)	257 (2.2)	23 (4.6)	247 (4.5)!	18 (3.8)	256 (1.7)!
Central	26 (3.6)	302 (3.0)	37 (4.3)	270 (2.2)	13 (5.9)	248 (3.3)!	23 (5.3)	265 (3.2)!
West	21 (2.7)	300 (3.3)	38 (4.9)	264 (2.6)	16 (2.1)	238 (2.5)	25 (4.2)	262 (3.6)
STATES								
Alabama	17 (2.1)	283 (2.7)	34 (3.3)	252 (2.6)	22 (2.5)	227 (2.4)	27 (3.4)	252 (3.0)
Arizona	21 (1.4)	293 (1.9)	43 (2.9)	262 (1.8)	15 (1.8)	246 (2.9) >	21 (2.6)	253 (2.3)
Arkansas	23 (1.8)	279 (2.4)	39 (2.8)	256 (1.5)	16 (1.7)	229 (2.2)	22 (3.1)	250 (2.3)
California	25 (1.5)	291 (2.2)	33 (3.0)	262 (3.0) >	18 (1.7)	236 (2.3)	24 (3.2)	246 (3.7)
Colorado	21 (1.6)	297 (1.8)	37 (2.4)	272 (1.8)	12 (1.4)	243 (2.8)	30 (2.8)	264 (2.1)
Connecticut	32 (1.9)	299 (2.4)	37 (2.0)	270 (1.8)	17 (1.5)	245 (2.7)	14 (2.1)	259 (3.9)
Delaware	32 (1.3)	286 (1.7) <	32 (1.1)	260 (1.2)	26 (1.3)	237 (1.9)	9 (0.6) «	253 (2.0) »
Dist. Columbia	14 (0.8)	270 (2.7)	31 (1.1) «	237 (1.4) >	32 (1.2) »	218 (1.6)	23 (1.2) «	232 (2.1)
Florida	24 (1.7)	288 (1.7)	39 (2.3)	256 (2.1)	20 (2.0)	236 (2.6) >	17 (2.5)	254 (3.6) >
Georgia	24 (1.7)	286 (2.0)	36 (2.1)	258 (1.8)	25 (1.9)	234 (2.1)	15 (2.6)	252 (3.5)
Hawaii	19 (0.7) «	298 (1.7) >	36 (0.9)	263 (1.2) »	28 (0.9)	233 (1.6) »	17 (0.5) »	243 (1.6) >
Idaho	21 (1.8)	299 (2.1)	43 (2.7)	274 (1.1)	17 (2.0)	248 (2.5)	19 (2.9)	274 (2.0)
Indiana	24 (1.5)	300 (2.1)	38 (3.0)	266 (1.5)	15 (1.6)	244 (3.0)	23 (3.3)	260 (2.3)
Iowa	22 (2.3)	304 (2.3)	34 (3.8)	281 (1.7) >	9 (1.3)	256 (3.1)	35 (4.6)	278 (1.7)
Kentucky	25 (1.7)	289 (2.0)	33 (2.6)	260 (1.7)	22 (2.4)	240 (2.1) >	19 (2.9)	257 (2.0) >
Louisiana	15 (1.8)	281 (3.1)	36 (3.3)	251 (2.1)	20 (2.5)	231 (3.3)	29 (3.3)	246 (2.5)
Maine	24 (2.0)	301 (1.9)	28 (3.1)	277 (1.9)	12 (1.9)	249 (2.3)	36 (4.0)	273 (1.7)
Maryland	34 (1.7)	296 (1.8)	36 (2.1)	258 (2.1)	19 (1.5)	233 (2.6)	12 (2.1)	255 (3.3)
Massachusetts	29 (1.6)	296 (2.1)	37 (2.3)	271 (1.8)	19 (1.6)	248 (2.3)	15 (2.4)	262 (4.1)
Michigan	22 (2.0)	296 (2.0)	41 (2.8)	263 (2.0)	17 (2.5)	242 (2.5)	20 (3.3)	265 (3.2)
Minnesota	20 (2.0)	308 (2.1)	45 (3.4)	278 (1.6)	9 (1.9)	254 (4.1)!	25 (4.1)	275 (1.9)
Mississippi	16 (1.5)	277 (2.4)	35 (2.3)	246 (2.4)	22 (2.2)	231 (2.3)	27 (2.9)	239 (2.2)
Missouri	22 (1.8)	298 (2.0)	34 (2.4)	270 (1.5)	17 (1.9)	248 (2.2)	27 (3.7)	264 (1.7)
Nebraska	18 (2.1)	303 (2.1)	45 (3.8)	278 (1.8)	10 (1.7)	246 (4.4)	27 (3.9)	271 (2.5)
New Hampshire	27 (1.7)	301 (1.8)	30 (2.7)	272 (1.6)	10 (1.2) <	251 (2.6)	33 (3.7) >	272 (1.6) >
New Jersey	29 (1.8)	302 (2.0)	34 (2.3)	270 (1.9)	22 (2.2)	247 (2.9)	15 (2.8)	253 (5.2)
New Mexico	22 (1.3)	286 (1.5)	37 (2.7)	260 (1.1) >	16 (1.5)	239 (1.8)	25 (3.0)	249 (1.6)
New York	19 (1.6)	302 (2.5) >	45 (3.0)	268 (1.6)	18 (1.7)	224 (3.5)	18 (2.9)	261 (4.2)
North Carolina	24 (2.1)	288 (2.1)	34 (2.1)	260 (1.6) »	23 (2.0)	230 (2.1)	19 (2.9)	248 (2.5)
North Dakota	14 (2.2)	302 (3.7)	48 (3.8)	282 (1.6)	5 (1.5)	261 (3.1)! >	33 (3.9)	279 (2.0)
Ohio	23 (2.6)	298 (1.5)	37 (3.5)	270 (2.2) >	13 (1.8)	240 (3.0)	27 (3.1)	256 (2.4)
Oklahoma	21 (1.7)	294 (1.7) >	44 (3.2)	268 (1.6)	19 (2.1)	241 (2.3)	17 (3.5)	263 (2.1)!
Pennsylvania	29 (2.2)	296 (1.8)	38 (2.4)	270 (1.7)	17 (1.5)	243 (2.7)	16 (2.6) >	257 (3.2)
Rhode Island	30 (1.1)	288 (1.5)	34 (1.1) «	261 (1.2)	19 (0.8) <	242 (1.5) »	16 (0.8) »	256 (2.0) »
South Carolina	26 (1.5)	294 (1.9)	37 (2.1)	258 (1.4)	24 (1.5)	233 (2.0)	13 (2.4)	252 (3.0)
Tennessee	21 (2.3)	284 (2.5)	39 (3.2)	258 (1.5)	23 (2.4)	238 (2.6)	16 (2.5)	256 (3.7)
Texas	23 (1.6)	298 (2.2) »	32 (2.5) <	264 (1.8)	17 (1.6)	238 (2.5) >	28 (2.6)	254 (2.0)
Utah	26 (1.7)	294 (1.6)	35 (2.1)	275 (1.4)	27 (1.8)	253 (1.6)	12 (1.9)	272 (2.9)
Virginia	27 (1.9)	295 (2.0)	38 (2.5)	266 (1.8)	18 (1.6)	237 (2.0)	18 (2.4)	261 (2.6)
West Virginia	28 (1.9)	282 (1.6)	33 (2.6)	255 (1.5)	21 (2.2)	237 (2.2)	18 (2.4)	252 (1.8)
Wisconsin	19 (2.4)	303 (2.2)	42 (4.1)	279 (1.9)	9 (1.3)	244 (3.1)	30 (3.5)	270 (2.3)
Wyoming	23 (1.4)	295 (1.8)	39 (2.3)	274 (1.3) >	15 (1.2)	251 (1.7)	23 (2.6)	272 (1.7)
TERRITORIES								
Guam	19 (1.0)	275 (2.0)	26 (1.3) «	243 (1.7)	31 (1.1) «	213 (2.0) >	24 (1.1) »	221 (2.0) «
Virgin Islands	19 (1.1) »	244 (2.3)	39 (1.2)	222 (1.2)	23 (1.3)	208 (2.0)	20 (1.0) «	211 (2.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 9.6 | Teachers' Reports on the Ability Levels of Their Students' Classes (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Primarily High Ability		Primarily Average Ability		Primarily Low Ability		Ability Widely Mixed	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	25 (1.8)	289 (2.5)	34 (2.9)	259 (2.0)	16 (2.2)	242 (3.8)	25 (4.3)	256 (3.4)
Northeast	24 (4.7)	285 (8.6)!	38 (7.9)	271 (3.9)!	21 (5.1)	248 (5.2)!	17(10.3)	*** (***)
Southeast	30 (4.4)	286 (5.1)	25 (4.1)	250 (3.6)!	16 (5.1)	236 (7.1)!	30 (8.1)	247 (3.5)!
Central	21 (2.6)	285 (4.1)	40 (4.1)	257 (5.1)	17 (4.2)	255 (7.3)!	22 (5.3)	256 (8.7)!
West	24 (3.0)	295 (3.0)	36 (6.8)	258 (3.5)	13 (3.1)	231 (5.6)!	27 (8.9)	257 (7.2)!
STATES								
Alabama	22 (2.3)	281 (2.6)	37 (3.1)	253 (1.9)	19 (2.1)	230 (2.6)	22 (3.2)	246 (2.6)
Arizona	24 (1.8)	288 (2.1)	40 (2.6)	257 (1.6)	17 (1.4)	236 (2.3)	19 (2.3)	250 (3.3)
Arkansas	23 (1.9)	282 (2.1)	37 (2.9)	255 (1.4)	15 (1.3)	231 (1.9)	24 (2.8)	254 (1.4)
California	31 (2.0)	288 (1.6)	29 (2.3)	251 (1.8)	20 (1.8)	229 (2.7)	20 (2.7)	243 (2.6)
Colorado	25 (1.7)	292 (2.3)	34 (2.5)	267 (1.4)	14 (1.6)	238 (2.0)	27 (2.6)	258 (1.5)
Connecticut	36 (2.2)	296 (2.0)	36 (1.9)	266 (1.4)	19 (1.4	241 (2.0)	10 (2.1)	254 (5.0)!
Delaware	30 (1.0)	293 (1.7)	33 (1.0)	259 (1.9)	23 [illegible]	235 (1.8)	14 (0.8)	242 (2.2)
Dist. Columbia	15 (1.0)	262 (2.8)	36 (0.8)	232 (1.3)	20 [illegible]	215 (1.6)	29 (1.2)	229 (0.9)
Florida	27 (1.4)	289 (2.0)	39 (2.4)	255 (1.3)	22 (1.8)	226 (2.7)	12 (2.1)	244 (2.0)
Georgia	25 (1.8)	286 (2.0)	35 (2.0)	261 (1.8)	27 (1.7)	231 (2.1)	13 (1.7)	252 (3.3)
Hawaii	25 (0.8)	291 (1.1)	38 (0.9)	253 (1.1)	29 (0.9)	221 (1.2)	7 (0.4)	231 (2.9)
Idaho	23 (2.0)	294 (2.0)	44 (1.4)	271 (1.0)	15 (1.0)	243 (1.7)	17 (1.8)	268 (2.0)
Indiana	25 (1.6)	299 (1.7)	40 (3.0)	266 (1.6)	19 (2.1)	241 (3.0)	15 (2.4)	256 (3.4)
Iowa	18 (1.9)	304 (2.2)	34 (3.5)	275 (1.8)	12 (1.9)	251 (2.4)	36 (4.1)	276 (2.4)
Kentucky	26 (1.6)	286 (1.3)	36 (2.8)	255 (1.4)	20 (2.0)	231 (2.6)	19 (2.9)	250 (1.7)
Louisiana	16 (1.6)	277 (2.3)	35 (3.1)	249 (2.2)	27 (2.5)	230 (1.7)	23 (2.6)	240 (2.0)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	33 (1.7)	292 (2.0)	38 (1.7)	258 (1.6)	21 (1.6)	228 (2.3)	8 (1.4)	243 (3.8)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	24 (1.6)	293 (1.9)	41 (3.1)	260 (2.1)	14 (1.8)	239 (2.8)	20 (2.9)	257 (3.0)
Minnesota	21 (1.7)	302 (2.3)	47 (2.9)	274 (1.3)	15 (2.0)	251 (2.9)	16 (2.9)	269 (2.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	17 (1.2)	301 (1.8)	42 (2.6)	274 (1.5)	8 (1.1)	238 (5.1)	32 (2.9)	274 (1.8)
New Hampshire	28 (1.6)	295 (1.9)	37 (1.3)	270 (1.4)	16 (1.4)	247 (1.3)	19 (1.1)	266 (1.9)
New Jersey	27 (1.8)	301 (3.3)	37 (2.1)	270 (1.9)	22 (1.7)	243 (2.3)	14 (2.7)	253 (3.3)
New Mexico	23 (1.1)	284 (1.3)	39 (1.4)	256 (1.2)	19 (0.9)	236 (1.5)	19 (1.0)	247 (1.4)
New York	21 (1.9)	290 (3.7)	41 (2.7)	263 (1.9)	23 (1.5)	233 (2.2)	15 (2.6)	255 (3.4)
North Carolina	26 (1.5)	285 (1.5)	34 (1.9)	250 (1.6)	29 (2.0)	225 (1.8)	12 (2.6)	242 (2.5)!
North Dakota	15 (1.7)	306 (3.0)	45 (3.2)	282 (2.2)	8 (1.5)	249 (3.0)	31 (2.7)	278 (1.2)
Ohio	25 (2.0)	294 (2.3)	42 (3.4)	263 (1.7)	16 (2.0)	235 (2.2)	18 (3.1)	260 (2.9)
Oklahoma	23 (2.2)	286 (2.3)	40 (3.6)	264 (1.7)	18 (1.7)	238 (2.5)	19 (3.3)	260 (2.6)
Pennsylvania	31 (1.9)	295 (1.3)	39 (2.3)	266 (1.6)	22 (1.6)	240 (2.2)	8 (1.5)	247 (3.5)
Rhode Island	30 (1.1)	289 (1.4)	40 (1.2)	260 (0.9)	23 (0.8)	231 (1.4)	8 (0.5)	238 (1.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	17 (1.9)	285 (2.6)	41 (2.8)	258 (1.8)	19 (1.7)	228 (1.9)	23 (2.5)	253 (2.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	29 (1.8)	293 (2.5)	38 (1.9)	260 (1.8)	19 (1.4)	234 (2.0)	14 (2.0)	255 (3.6)
West Virginia	27 (1.9)	281 (1.5)	35 (2.7)	253 (1.6)	18 (2.2)	232 (2.2)	19 (3.1)	252 (2.1)
Wisconsin	24 (2.3)	301 (1.8)	38 (2.8)	274 (1.7)	14 (1.4)	247 (2.6)	24 (3.1)	268 (2.4)
Wyoming	26 (0.9)	291 (1.2)	38 (1.8)	269 (1.1)	13 (0.7)	250 (1.6)	23 (1.5)	271 (1.4)
TERRITORIES								
Guam	19 (0.6)	269 (2.0)	33 (0.9)	239 (0.9)	36 (0.7)	206 (1.0)	13 (0.4)	233 (1.8)
Virgin Islands	14 (0.5)	239 (3.6)	36 (0.7)	224 (1.0)	22 (0.8)	206 (1.8)	29 (1.1)	216 (1.9)

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48

TABLE 9.7 Teachers' Reports on the Frequency with Which Students Do Mathematics Problems from Textbooks and Worksheets, Grades 4 and 8

Do mathematics problems from textbooks	Assessment Years	About how often do students in this class do the following types of activities for mathematics class?					
		Almost Every Day		At Least Once a Week		Less than Weekly	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	**1992**	76 (2.2)>	217 (1.0)>	20 (1.8)<	220 (2.6)	4 (1.2)	226 (4.3)
	1990	59 (3.2)	214 (1.0)	37 (3.0)	215 (2.0)	4 (2.2)	223 (7.2)
High ability	**1992**	68 (8.3)>	234 (2.4)	22 (7.2)<	251 (9.6)	10 (7.1)	238(17.5)
	1990	41 (8.1)	226 (5.8)	58 (8.4)	243 (7.2)	2 (1.6)	--
Average ability	**1992**	84 (2.7)>	221 (1.2)>	13 (2.0)<	223 (4.1)	3 (1.5)	235 (6.6)
	1990	68 (5.2)	215 (2.0)	32 (5.2)	215 (3.2)	0 (0.0)	--
Low ability	**1992**	69 (5.7)	196 (2.4)	28 (5.3)	196 (5.7)	3 (2.5)	188 (7.3)
	1990	48 (8.5)	206 (5.5)	52 (8.5)	198 (4.3)	0 (0.0)	--
Mixed ability	**1992**	71 (3.6)	215 (1.6)	25 (3.2)	221 (2.3)>	4 (1.5)	220 (6.5)
	1990	60 (5.8)	213 (1.8)	30 (5.4)	208 (2.5)	10 (5.8)	223 (8.4)
Grade 8							
Nation	**1992**	83 (1.5)>	272 (1.3)	14 (1.5)<	256 (2.4)	3 (0.6)	250 (6.0)
	1990	64 (3.3)	268 (1.7)	32 (3.1)	255 (2.9)	3 (1.2)	259 (6.5)
High ability	**1992**	92 (2.3)	300 (1.9)>	5 (1.7)	296 (5.1)	3 (1.2)	282(10.9)
	1990	84 (4.2)	289 (2.5)	15 (3.9)	285 (5.9)	2 (1.5)	286 (6.3)
Average ability	**1992**	84 (2.6)>	268 (1.4)	14 (2.5)<	256 (2.9)	2 (0.7)	255 (5.1)
	1990	54 (5.0)	262 (2.8)	43 (4.9)	258 (3.3)	3 (1.9)	260 (3.5)
Low ability	**1992**	80 (3.1)>	248 (2.0)	16 (2.6)<	233 (3.8)	4 (1.4)	218 (4.8)
	1990	61 (5.7)	250 (4.2)	37 (5.7)	236 (5.2)	2 (1.3)	218 (3.4)
Mixed ability	**1992**	74 (4.4)	262 (1.8)	21 (4.1)	262 (3.4)	5 (2.0)	248 (10.1)
	1990	64 (9.4)	258 (2.9)	33 (8.3)	251 (5.9)	2 (1.7)	282 (22.5)

(Table 9.7 continued on the next page)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 9.7 Teachers' Reports on the Frequency with Which Students Do Mathematics Problems from Textbooks and Worksheets, Grades 4 and 8 (continued)

Do mathematics problems from worksheets	Assessment Years	About how often do students in this class do the following types of activities for mathematics class?					
		Almost Every Day		At Least Once a Week		Less than Weekly	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	26 (2.1)	219 (1.6)	56 (2.2)<	218 (1.5)>	18 (1.8)	217 (1.8)
	1990	19 (2.7)	217 (2.6)	68 (2.8)	213 (1.2)	13 (1.6)	218 (2.8)
High ability	1992	20 (5.2)	227 (5.0)	58 (8.1)	240 (4.0)	21 (5.6)	243 (4.7)
	1990	10 (6.5)	241 (9.0)	68 (7.2)	238 (6.7)	21 (5.3)	228 (6.6)
Average ability	1992	26 (2.8)	226 (2.4)	57 (3.5)	221 (1.7)>	17 (2.4)	218 (2.2)
	1990	21 (3.3)	219 (2.6)	63 (4.3)	212 (2.3)	16 (3.9)	219 (3.7)
Low ability	1992	33 (4.3)>	201 (4.1)	52 (6.1)	194 (3.7)	14 (4.3)	191 (3.0)
	1990	11 (5.3)	198 (7.4)	74 (7.9)	201 (3.5)	15 (6.2)	209(16.0)
Mixed ability	1992	26 (3.9)	218 (2.7)	55 (4.0)	216 (1.4)	18 (3.1)>	217 (3.2)
	1990	22 (4.8)	215 (4.1)	69 (5.0)	211 (2.2)	9 (2.4)	217 (3.5)
Grade 8							
Nation	1992	12 (1.8)>	261 (4.3)	52 (2.2)<	266 (1.5)>	36 (2.5)	275 (1.8)
	1990	6 (1.6)	265 (4.4)	62 (3.4)	258 (1.8)	32 (3.5)	274 (2.5)
High ability	1992	9 (3.4)	293 (9.3)	42 (3.3)	296 (2.3)>	49 (4.8)	303 (2.0)
	1990	5 (2.3)	291 (4.9)	46 (5.8)	280 (4.2)	49 (6.1)	296 (3.0)
Average ability	1992	11 (2.4)	262 (3.1)<	57 (3.3)<	266 (1.6)>	32 (2.9)>	266 (2.7)
	1990	4 (2.1)	275 (3.2)	75 (4.0)	258 (2.4)	20 (3.5)	265 (5.5)
Low ability	1992	14 (2.9)	238 (4.7)	60 (4.5)	244 (2.7)	26 (4.5)	248 (3.2)
	1990	13 (4.2)	251 (4.8)	66 (5.8)	241 (4.5)	21 (5.2)	248 (5.4)
Mixed ability	1992	16 (3.6)>	256 (3.6)	49 (5.6)	262 (3.0)	35 (5.1)	262 (1.8)
	1990	3 (1.7)	256 (6.3)	59 (7.4)	253 (4.5)	38 (7.4)	262 (3.4)

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TABLE 9.8 Students' Reports on the Frequency with Which They Do Mathematics Problems from Textbooks and Worksheets in Mathematics Class, Grades 4, 8, and 12

Do mathematics problems from textbooks	Assessment Years	In mathematics class, how often do you do each of the following?					
		Almost Every Day		At Least Once a Week		Less than Weekly	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	1992	66 (1.3)>	220 (0.8)>	17 (0.9)<	221 (1.5)>	17 (1.0)	209 (1.7)
	1990	59 (1.6)	215 (1.2)	26 (1.2)	215 (1.7)	15 (1.0)	204 (2.3)
Grade 8	1992	85 (0.9)>	271 (1.0)	10 (0.7)>	252 (1.8)	5 (0.4)	246 (2.5)
	1990	74 (1.8)	268 (1.2)	20 (1.1)	250 (1.7)	6 (0.9)	242 (5.2)
Grade 12 All Students	1992	74 (1.0)>	304 (0.8)	8 (0.5)<	288 (2.7)	18 (0.9)<	280 (1.5)
	1990	64 (1.5)	302 (1.3)	13 (0.8)	288 (2.6)	24 (1.3)	278 (1.5)
Grade 12 Taking Math	1992	88 (0.9)>	308 (0.9)	8 (0.6)<	295 (3.4)	4 (0.6)	297 (3.7)
	1990	82 (1.4)	305 (1.4)	12 (1.0)	300 (3.1)	6 (0.7)	294 (4.4)

Do mathematics problems on worksheets	Assessment Years	Almost Every Day		At Least Once a Week		Less than Weekly	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	1992	44 (1.3)>	218 (1.1)>	37 (0.9)<	220 (1.0)>	20 (0.9)	217 (1.2)>
	1990	35 (1.4)	214 (1.4)	44 (1.4)	214 (1.4)	20 (1.2)	210 (1.8)
Grade 8	1992	22 (1.3)	257 (2.2)>	42 (1.1)	268 (1.3)>	36 (1.5)	274 (1.2)
	1990	18 (1.6)	248 (2.7)	45 (1.7)	261 (1.3)	37 (2.3)	272 (1.6)
Grade 12 All Students	1992	15 (0.7)>	290 (1.9)	37 (1.0)	297 (1.1)>	48 (1.2)	303 (1.1)>
	1990	10 (0.9)	286 (2.8)	40 (1.7)	293 (1.5)	50 (2.1)	297 (1.5)
Grade 12 Taking Math	1992	16 (0.9)>	293 (2.6)	37 (1.1)	302 (1.2)	47 (1.5)	315 (1.1)
	1990	12 (1.2)	289 (3.7)	42 (2.2)	299 (1.8)	46 (2.7)	312 (1.7)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.9 | Teachers' Reports on the Frequency with Which Students Do Mathematics Problems from Textbooks in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	75 (2.4)	216 (1.1)	21 (2.0)	219 (2.8)	4 (1.4)	227 (4.1)!
Northeast	73 (5.6)	220 (2.7)	20 (4.1)	217 (6.9)!	7 (4.4)	*** (***)
Southeast	84 (2.3)	208 (2.2)	15 (2.0)	205 (3.3)	1 (1.0)	*** (***)
Central	78 (4.3)	224 (2.1)	18 (4.1)	226 (5.4)!	4 (1.9)	214 (9.8)!
West	63 (6.1)	213 (2.4)	32 (4.8)	224 (4.7)!	6 (3.4)	*** (***)
STATES						
Alabama	91 (1.9)	208 (1.5)	8 (2.0)	205 (5.5)!	1 (0.5)	*** (***)
Arizona	65 (3.3)	214 (1.5)	30 (2.8)	216 (1.6)	5 (1.5)	211 (4.0)!
Arkansas	92 (1.8)	209 (0.9)	7 (1.8)	215 (5.1)!	1 (0.3)	*** (***)
California	71 (3.1)	208 (1.9)	22 (3.0)	207 (3.2)	7 (1.8)	206 (5.2)!
Colorado	52 (3.4)	219 (1.4)	37 (2.9)	220 (2.0)	11 (2.3)	224 (3.8)!
Connecticut	56 (3.6)	226 (2.0)	33 (3.3)	230 (1.9)	11 (2.2)	229 (3.7)
Delaware	80 (0.8)	218 (1.0)	16 (1.0)	214 (1.9)	4 (0.4)	*** (***)
Dist. Columbia	39 (0.6)	191 (1.3)	54 (1.0)	193 (1.0)	7 (0.8)	178 (3.2)
Florida	81 (2.3)	213 (1.4)	16 (1.9)	207 (2.3)	3 (0.9)	215 (7.9)!
Georgia	88 (2.4)	214 (1.4)	10 (1.9)	213 (4.9)	2 (1.7)	*** (***)
Hawaii	84 (1.9)	214 (1.4)	14 (1.8)	210 (2.9)	2 (0.8)	*** (***)
Idaho	80 (3.2)	221 (1.0)	17 (2.8)	218 (2.4)	3 (1.6)	212 (3.6)!
Indiana	72 (3.0)	218 (1.3)	24 (2.9)	221 (1.8)	3 (1.1)	227 (4.5)!
Iowa	68 (3.4)	228 (1.3)	26 (3.2)	231 (2.1)	6 (1.6)	233 (2.8)!
Kentucky	76 (3.5)	214 (1.3)	22 (3.4)	210 (2.2)	2 (0.8)	213 (9.8)!
Louisiana	91 (2.0)	203 (1.6)	9 (2.0)	197 (3.6)!	0 (0.0)	*** (***)
Maine	44 (4.1)	231 (1.3)	44 (4.0)	230 (1.5)	12 (2.7)	229 (3.8)!
Maryland	67 (3.3)	217 (2.1)	29 (3.2)	217 (2.4)	5 (1.5)	238 (5.1)!
Massachusetts	58 (4.0)	225 (1.8)	33 (3.4)	227 (1.8)	9 (2.2)	234 (4.3)!
Michigan	65 (3.9)	218 (2.1)	31 (3.5)	220 (3.1)	3 (1.1)	225 (6.1)!
Minnesota	70 (3.3)	226 (1.5)	21 (3.0)	229 (2.5)	9 (2.2)	229 (2.9)!
Mississippi	85 (2.7)	201 (1.4)	15 (2.8)	196 (2.3)	0 (0.5)	*** (***)
Missouri	82 (2.7)	221 (1.6)	13 (2.3)	226 (2.7)	5 (1.8)	228(10.1)!
Nebraska	71 (3.8)	224 (1.5)	25 (3.7)	226 (2.9)	3 (1.3)	230 (9.1)!
New Hampshire	55 (3.9)	229 (1.5)	36 (3.7)	227 (2.1)	9 (1.6)	237 (3.1)
New Jersey	85 (2.7)	226 (1.5)	14 (2.7)	229 (4.3)	1 (0.4)	*** (***)
New Mexico	83 (3.4)	212 (1.5)	13 (3.1)	213 (3.1)!	3 (1.6)	*** (***)
New York	70 (3.3)	217 (1.5)	24 (2.7)	215 (2.7)	6 (1.8)	227 (5.4)!
North Carolina	78 (2.8)	213 (1.2)	20 (2.5)	211 (2.9)	3 (1.1)	209 (4.3)!
North Dakota	82 (3.0)	228 (0.9)	15 (2.7)	228 (2.7)	3 (1.1)	*** (***)
Ohio	77 (3.4)	217 (1.5)	22 (3.3)	217 (3.0)	1 (0.7)	*** (***)
Oklahoma	83 (2.9)	220 (1.1)	14 (2.5)	220 (2.9)	3 (1.6)	214 (4.8)!
Pennsylvania	83 (2.5)	225 (1.5)	15 (2.4)	215 (3.7)	2 (0.8)	191 (6.1)!
Rhode Island	65 (3.0)	213 (1.8)	32 (2.7)	217 (2.4)	4 (1.0)	204 (8.5)!
South Carolina	87 (2.4)	212 (1.3)	12 (2.0)	207 (3.4)	2 (0.9)	*** (***)
Tennessee	85 (2.3)	209 (1.5)	13 (2.1)	214 (3.6)	2 (0.8)	*** (***)
Texas	69 (3.4)	216 (1.6)	26 (3.2)	217 (2.9)	5 (2.3)	228 (3.2)!
Utah	80 (2.3)	224 (1.0)	17 (2.2)	223 (2.3)	3 (1.1)	208 (4.9)!
Virginia	83 (3.0)	219 (1.4)	14 (2.4)	222 (3.8)	3 (1.1)	238(10.5)!
West Virginia	89 (2.2)	214 (1.2)	11 (2.2)	212 (2.9)!	1 (0.5)	*** (***)
Wisconsin	78 (2.9)	228 (1.3)	20 (2.9)	230 (2.7)	2 (0.9)	*** (***)
Wyoming	56 (2.9)	226 (1.3)	35 (2.5)	223 (1.7)	9 (2.1)	225 (2.4)!
TERRITORY						
Guam	70 (1.3)	192 (1.0)	23 (1.3)	187 (2.0)	8 (0.1)	196 (3.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.9 Teachers' Reports on the Frequency with Which Students Do Mathematics Problems from Textbooks in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	82 (1.6)	271 (1.3)	15 (1.6)	256 (2.4)	3 (0.7)	248 (6.0)!
Northeast	80 (2.7)	271 (4.2)	13 (2.2)	253 (4.5)	8 (2.7)	255 (8.6)!
Southeast	92 (2.7)	263 (1.2)	8 (2.7)	243(11.7)!	1 (0.3)	*** (***)
Central	76 (4.3)	279 (2.5)	23 (4.4)	262 (5.0)!	1 (0.7)	*** (***)
West	79 (2.8)	271 (2.5)	16 (2.5)	257 (2.9)	5 (1.3)	240 (6.6)!
STATES						
Alabama	87 (3.2)	254 (1.6)	12 (3.1)	239 (8.6)!	1 (0.9)	*** (***)
Arizona	82 (2.8) >	266 (1.6)	14 (2.5) <	256 (3.2)!	4 (1.5)	258 (4.3)!
Arkansas	91 (2.0) >	257 (1.2)	7 (1.7) «	247 (4.9)!	2 (0.8)	*** (***)
California	74 (3.1)	263 (2.1)	18 (2.4) «	258 (3.3)	8 (1.8) >	254 (5.0)!
Colorado	70 (3.0)	276 (1.4) >	21 (2.6) <	263 (2.4)	9 (2.3)	256 (5.8)!
Connecticut	74 (2.8) »	276 (2.0)	20 (2.6) «	265 (2.6)	6 (1.5)	267 (6.4)!
Delaware	68 (1.1)	266 (1.3)	25 (1.0) <	255 (1.8)	7 (0.6) »	252 (2.6)
Dist. Columbia	71 (1.0) »	239 (1.2)	24 (1.0) «	224 (1.9) <	5 (0.4)	227 (4.6)
Florida	86 (2.0) >	262 (1.4)	12 (1.8) «	246 (3.9)	2 (0.6)	*** (***)
Georgia	87 (2.1) »	260 (1.4)	12 (2.1) «	248 (2.7)	1 (0.4)	*** (***)
Hawaii	79 (0.6) »	261 (1.0) >	16 (0.6) «	250 (1.7) »	5 (0.5) »	231 (4.0)
Idaho	93 (1.7) »	275 (0.8)	6 (1.5) «	272 (3.8)!	2 (0.8)	*** (***)
Indiana	87 (2.2)	272 (1.4)	12 (2.1)	257 (2.8)	2 (0.5)	*** (***)
Iowa	90 (2.2) »	283 (1.1) >	8 (1.9) «	283 (3.7)!	2 (1.1)	*** (***)
Kentucky	80 (2.7)	264 (1.2) >	17 (2.4)	256 (2.8)	3 (1.2)	239 (8.2)!
Louisiana	87 (2.7)	251 (1.8)	11 (2.3)	243 (5.7)!	2 (1.2)	*** (***)
Maine	70 (3.8)	281 (1.3)	20 (3.4)	273 (2.2)	9 (2.0)	268 (6.9)!
Maryland	72 (3.3) >	270 (1.9)	25 (3.2) <	257 (2.7)	3 (0.9)	251(12.6)!
Massachusetts	82 (2.9)	274 (1.4)	14 (2.7)	263 (4.8)	4 (1.3)	261 (9.5)!
Michigan	80 (2.6)	270 (1.7)	17 (2.5)	254 (4.2)	3 (0.9)	251(10.2)!
Minnesota	95 (1.1) »	282 (1.1) >	4 (1.4) «	266 (5.9)!	1 (0.6)	*** (***)
Mississippi	88 (2.5)	246 (1.3)	10 (2.2)	234 (4.6)!	2 (1.1)	257(17.6)!
Missouri	86 (2.5)	272 (1.2)	10 (1.9)	261 (3.2)	4 (1.3)	262 (4.7)!
Nebraska	83 (2.9)	280 (1.3)	15 (2.7)	263 (2.3)	2 (0.9)	*** (***)
New Hampshire	73 (2.7) »	279 (1.3) >	20 (2.1) «	274 (1.3)	7 (1.8)	276 (4.5)!
New Jersey	80 (3.7)	274 (1.4)	19 (3.7)	261 (5.4)!	1 (0.5)	*** (***)
New Mexico	82 (3.0) »	261 (1.0)	12 (2.4) «	251 (2.9)!	6 (1.7)	248 (4.4)!
New York	66 (4.1)	270 (2.6)	22 (2.8) <	261 (4.5)	11 (2.8)	251 (7.3)!
North Carolina	84 (2.3) »	259 (1.3) >	13 (2.1) «	249 (2.7)	3 (0.9)	236(10.2)!
North Dakota	90 (1.8) >	283 (1.3)	5 (1.1) <	278 (4.6)!	5 (1.4)	277 (2.2)!
Ohio	79 (3.1)	272 (1.9)	19 (3.0)	260 (3.6)	1 (0.5)	*** (***)
Oklahoma	93 (1.8) >	268 (1.2)	6 (1.7) «	265 (4.7)!	1 (0.4)	*** (***)
Pennsylvania	86 (2.0) >	273 (1.6)	12 (1.9) <	258 (4.5)	2 (0.7)	*** (***)
Rhode Island	75 (1.1) >	268 (0.9)	17 (1.0) «	256 (1.7)	7 (0.4) »	259 (2.7) »
South Carolina	85 (2.3)	262 (1.1)	13 (2.1)	249 (3.9)	2 (0.8)	*** (***)
Tennessee	84 (3.1)	259 (1.5)	14 (2.7)	254 (3.2)	2 (1.0)	*** (***)
Texas	80 (2.5) »	267 (1.6) »	18 (2.4) «	252 (2.4)	2 (0.9)	*** (***)
Utah	93 (1.3)	275 (0.8)	5 (1.2)	260 (2.9)!	2 (0.5)	*** (***)
Virginia	81 (2.5) >	270 (1.2)	16 (2.3) «	254 (3.6)	3 (0.7)	251 (7.2)!
West Virginia	91 (1.7)	259 (1.1)	8 (1.5) <	252 (4.8)	1 (0.6)	*** (***)
Wisconsin	84 (2.7) >	280 (1.6)	14 (2.5) «	271 (4.8)	3 (1.2)	272 (8.3)!
Wyoming	83 (2.4) »	277 (0.9)	9 (1.2) «	262 (2.8)	8 (1.9)	268 (1.9)!
TERRITORIES						
Guam	80 (0.7) »	238 (1.4)	12 (0.7) «	224 (3.9)	8 (0.5) »	220 (4.4)
Virgin Islands	89 (0.8) »	223 (1.2)	11 (0.8) <	207 (2.5)	0 (0.0)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 9.9 | Teachers' Reports on the Frequency with Which Students Do Mathematics Problems from Textbooks in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	62 (3.4)	267 (1.8)	34 (3.2)	255 (3.0)	4 (1.3)	*** (***)
Northeast	57 (9.3)	277 (4.7)	38(10.2)	262 (6.6)!	5 (4.0)	*** (***)
Southeast	75 (7.8)	260 (3.4)	22 (7.8)	250 (6.5)!	3 (2.8)	*** (***)
Central	62 (5.6)	269 (4.1)	34 (3.7)	251 (5.6)	4 (2.7)	*** (***)
West	55 (6.0)	269 (3.3)	41 (5.5)	257 (5.0)	3 (1.5)	*** (***)
STATES						
Alabama	85 (2.5)	255 (1.2)	14 (2.5)	243 (3.8)	1 (0.3)	*** (***)
Arizona	72 (2.5)	262 (1.6)	26 (2.5)	255 (2.5)	2 (1.0)	*** (***)
Arkansas	80 (2.7)	259 (1.2)	20 (2.7)	251 (2.6)	1 (0.4)	*** (***)
California	64 (3.2)	259 (1.9)	33 (3.2)	253 (2.4)	3 (0.7)	*** (***)
Colorado	59 (3.6)	271 (1.1)	34 (3.0)	262 (1.7)	7 (2.1)	256 (4.6)!
Connecticut	56 (3.5)	273 (1.5)	40 (3.2)	269 (1.4)	5 (1.9)	253 (5.0)!
Delaware	68 (1.0)	266 (1.3)	29 (0.9)	249 (2.0)	3 (0.5)	*** (***)
Dist. Columbia	39 (1.2)	240 (1.6)	54 (1.3)	230 (0.9)	7 (0.6)	219 (1.7)
Florida	76 (2.6)	262 (1.3)	23 (2.6)	243 (3.1)	1 (0.5)	*** (***)
Georgia	74 (2.6)	262 (1.5)	26 (2.7)	248 (2.6)	0 (0.2)	*** (***)
Hawaii	68 (1.3)	257 (1.1)	30 (1.3)	241 (1.1)	2 (0.3)	*** (***)
Idaho	75 (1.9)	274 (0.9)	24 (1.9)	266 (1.7)	1 (0.3)	*** (***)
Indiana	81 (3.1)	270 (1.3)	17 (2.9)	261 (3.1)	2 (0.8)	*** (***)
Iowa	77 (2.9)	278 (1.3)	20 (2.6)	275 (3.3)	4 (1.2)	270 (3.2)!
Kentucky	80 (2.6)	259 (1.3)	18 (2.5)	252 (3.1)	2 (0.8)	*** (***)
Louisiana	83 (2.7)	247 (1.2)	16 (2.6)	244 (3.4)	1 (0.6)	*** (***)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	57 (3.2)	267 (2.1)	40 (3.2)	255 (2.5)	2 (0.7)	239 (8.0)!
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	71 (3.6)	266 (1.8)	27 (3.4)	260 (3.3)	2 (1.0)	258(10.2)!
Minnesota	73 (3.9)	278 (1.2)	24 (3.9)	269 (1.8)	3 (1.2)	262 (6.3)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	78 (2.1)	278 (1.4)	21 (2.0)	267 (2.4)	1 (0.1)	*** (***)
New Hampshire	55 (1.2)	273 (1.3)	37 (1.4)	272 (1.5)	7 (1.1)	277 (2.3)
New Jersey	74 (2.9)	272 (1.5)	26 (2.9)	263 (3.3)	0 (0.1)	*** (***)
New Mexico	69 (1.2)	259 (0.9)	27 (1.2)	253 (1.4)	4 (0.2)	251 (3.7)
New York	60 (3.5)	267 (1.9)	34 (3.0)	253 (3.3)	6 (1.2)	246 (6.0)!
North Carolina	70 (3.2)	254 (1.4)	28 (3.2)	244 (2.5)	2 (0.6)	*** (***)
North Dakota	79 (3.3)	282 (1.2)	16 (3.4)	280 (5.2)!	5 (0.3)	*** (***)
Ohio	69 (3.8)	268 (1.6)	30 (3.7)	261 (2.9)	2 (0.9)	*** (***)
Oklahoma	79 (3.4)	265 (1.4)	20 (3.4)	257 (2.6)	1 (0.3)	*** (***)
Pennsylvania	74 (2.9)	272 (1.7)	24 (2.9)	254 (3.0)	2 (0.5)	*** (***)
Rhode Island	71 (1.0)	265 (0.9)	26 (1.0)	252 (1.3)	3 (0.3)	217 (2.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	62 (3.2)	258 (1.8)	33 (3.4)	251 (2.0)	5 (1.2)	255 (8.1)!
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	70 (2.5)	267 (2.0)	29 (2.5)	255 (2.4)	1 (0.4)	*** (***)
West Virginia	85 (2.6)	257 (1.1)	15 (2.6)	257 (2.5)	0 (0.1)	*** (***)
Wisconsin	69 (3.6)	277 (1.5)	30 (3.6)	272 (2.3)	1 (0.3)	*** (***)
Wyoming	71 (0.6)	274 (0.8)	21 (0.7)	269 (1.6)	9 (0.4)	267 (2.7)
TERRITORIES						
Guam	57 (0.7)	234 (1.3)	42 (0.8)	231 (1.4)	1 (0.2)	*** (***)
Virgin Islands	84 (0.9)	223 (1.0)	15 (0.9)	207 (2.3)	1 (0.0)	*** (***)

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TABLE 9.10 Students' Reports on the Frequency with Which They Do Mathematics Problems from Textbooks in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	65 (1.4)	219 (0.9)	17 (1.0)	220 (1.7)	18 (1.0)	208 (1.8)
Northeast	65 (4.1)	224 (2.4)	17 (2.6)	227 (3.0)	18 (2.3)	214 (5.6)
Southeast	71 (2.7)	212 (1.8)	13 (1.4)	205 (2.6)	16 (2.0)	196 (3.9)
Central	68 (2.2)	224 (2.2)	16 (1.9)	224 (1.8)	16 (1.6)	211 (4.0)
West	58 (2.3)	218 (1.6)	22 (1.7)	221 (3.9)	20 (2.3)	210 (2.8)
STATES						
Alabama	79 (1.6)	210 (1.5)	10 (0.8)	200 (3.2)	11 (1.2)	189 (2.4)
Arizona	61 (1.5)	217 (1.3)	19 (1.1)	215 (1.8)	21 (1.0)	204 (1.8)
Arkansas	65 (1.7)	214 (1.0)	13 (1.0)	203 (1.9)	22 (1.2)	195 (1.9)
California	57 (1.6)	212 (1.7)	19 (1.0)	201 (2.7)	24 (1.4)	202 (2.9)
Colorado	55 (2.1)	223 (1.1)	21 (1.4)	221 (1.8)	24 (1.3)	212 (2.1)
Connecticut	61 (1.9)	228 (1.4)	19 (1.3)	228 (1.7)	20 (1.3)	219 (2.1)
Delaware	64 (1.1)	220 (1.2)	17 (0.9)	216 (2.1)	20 (1.0)	206 (1.4)
Dist. Columbia	41 (0.9)	194 (1.1)	31 (1.0)	195 (1.5)	28 (0.8)	185 (1.2)
Florida	70 (1.6)	216 (1.6)	13 (0.9)	205 (2.1)	17 (1.1)	201 (2.2)
Georgia	71 (1.2)	219 (1.3)	13 (0.8)	208 (2.2)	16 (1.1)	198 (2.0)
Hawaii	73 (1.4)	217 (1.4)	14 (1.1)	206 (2.6)	13 (0.8)	197 (2.3)
Idaho	63 (1.9)	225 (0.9)	15 (1.3)	217 (1.8)	22 (1.1)	210 (2.0)
Indiana	70 (1.4)	221 (1.0)	16 (1.2)	222 (2.0)	14 (0.8)	211 (2.4)
Iowa	67 (1.9)	231 (1.1)	18 (1.3)	230 (1.7)	15 (1.1)	219 (2.1)
Kentucky	68 (1.6)	217 (1.1)	14 (0.8)	208 (2.4)	18 (1.2)	204 (1.8)
Louisiana	78 (1.4)	207 (1.5)	12 (0.9)	197 (2.3)	10 (0.9)	187 (2.8)
Maine	45 (2.6)	233 (1.3)	27 (1.7)	232 (1.7)	27 (1.8)	226 (1.8)
Maryland	63 (1.9)	220 (1.6)	19 (1.5)	217 (2.5)	17 (1.2)	204 (2.2)
Massachusetts	58 (2.2)	228 (1.5)	21 (1.3)	228 (1.8)	21 (1.6)	217 (2.5)
Michigan	61 (2.1)	222 (1.8)	19 (1.3)	218 (2.9)	20 (1.6)	210 (2.4)
Minnesota	67 (1.5)	232 (0.9)	16 (1.1)	223 (2.3)	17 (1.3)	216 (2.6)
Mississippi	75 (1.3)	205 (1.1)	14 (0.9)	192 (2.2)	11 (0.8)	182 (2.2)
Missouri	72 (2.1)	224 (1.5)	14 (1.1)	219 (1.7)	14 (1.7)	210 (3.9)
Nebraska	68 (1.9)	228 (1.3)	16 (1.5)	225 (2.7)	16 (1.0)	209 (2.3)
New Hampshire	61 (2.2)	231 (1.3)	19 (1.5)	233 (2.1)	20 (1.3)	218 (2.2)
New Jersey	80 (1.5)	229 (1.5)	12 (1.0)	221 (2.6)	9 (0.9)	206 (3.0)
New Mexico	67 (1.8)	216 (1.7)	12 (1.0)	208 (3.6)	21 (1.4)	202 (2.0)
New York	67 (2.1)	221 (1.4)	21 (1.4)	212 (2.4)	13 (1.2)	205 (3.1)
North Carolina	74 (1.4)	215 (1.2)	13 (0.9)	205 (2.3)	14 (0.8)	198 (1.9)
North Dakota	76 (1.9)	230 (0.8)	13 (1.3)	224 (2.1)	11 (1.1)	215 (2.0)
Ohio	64 (1.8)	220 (1.2)	18 (1.4)	219 (2.5)	18 (1.0)	206 (2.3)
Oklahoma	71 (1.8)	222 (1.1)	13 (1.1)	216 (2.2)	16 (1.3)	207 (1.8)
Pennsylvania	71 (1.4)	227 (1.5)	17 (1.2)	219 (2.5)	12 (1.2)	209 (2.5)
Rhode Island	57 (1.6)	219 (1.6)	18 (1.0)	212 (2.9)	26 (1.6)	205 (2.2)
South Carolina	74 (1.5)	215 (1.2)	12 (1.0)	203 (2.6)	14 (1.0)	198 (1.9)
Tennessee	68 (1.5)	214 (1.5)	15 (0.9)	203 (2.8)	16 (1.2)	198 (2.0)
Texas	60 (2.4)	219 (1.3)	21 (1.2)	219 (2.6)	20 (2.1)	209 (2.6)
Utah	60 (1.4)	228 (1.0)	14 (0.8)	220 (2.0)	26 (1.1)	212 (1.7)
Virginia	71 (1.6)	223 (1.3)	13 (0.9)	217 (2.9)	16 (1.2)	207 (3.1)
West Virginia	74 (1.2)	218 (1.1)	9 (0.8)	205 (3.0)	17 (1.0)	202 (1.8)
Wisconsin	69 (1.7)	230 (1.1)	17 (1.1)	228 (2.0)	14 (1.1)	215 (3.1)
Wyoming	60 (1.7)	227 (1.1)	19 (1.0)	226 (1.8)	21 (1.5)	216 (1.4)
TERRITORY						
Guam	61 (1.3)	194 (0.9)	24 (1.1)	190 (1.4)	14 (0.7)	182 (2.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 9.10 | Students' Reports on the Frequency with Which They Do Mathematics Problems from Textbooks in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	84 (1.0)	270 (1.1)	11 (0.8)	251 (1.9)	5 (0.4)	245 (2.6)
Northeast	81 (2.1)	272 (3.2)	12 (1.3)	254 (4.7)	7 (1.2)	243 (5.8)
Southeast	89 (1.8)	260 (1.3)	8 (1.4)	242 (4.1)	3 (0.5)	*** (***)
Central	84 (1.9)	276 (2.6)	11 (1.8)	259 (4.8)	5 (0.9)	256 (3.3)!
West	82 (2.0)	271 (2.3)	12 (1.5)	247 (2.3)	6 (0.9)	244 (4.6)
STATES						
Alabama	88 (1.6) >	253 (1.6)	8 (1.1) «	239 (4.5)	4 (0.9)	243 (9.3)!
Arizona	84 (1.9)	268 (1.3)	9 (1.0) «	247 (3.5)	6 (1.5)	252 (4.1)!
Arkansas	87 (1.3) >	258 (1.2)	8 (0.9) «	244 (2.7)	4 (0.6)	231 (6.1)
California	76 (1.9) >	264 (1.9)	14 (1.2) «	250 (2.9)	10 (1.5)	244 (3.5)
Colorado	76 (2.5)	276 (1.0) >	14 (1.5) <	259 (2.1)	10 (2.0)	256 (5.3)
Connecticut	78 (2.1) »	276 (1.3)	13 (1.2) «	266 (2.3)	9 (1.4)	260 (3.9)
Delaware	75 (1.0) »	267 (1.2)	16 (0.8) «	249 (2.1)	10 (0.8)	251 (2.8)
Dist. Columbia	59 (1.4) »	239 (1.3)	28 (1.3) «	228 (2.1)	12 (0.7) >	227 (3.0)
Florida	87 (1.3) »	262 (1.4)	9 (1.1) «	237 (3.7)	3 (0.5)	239 (5.3)
Georgia	91 (1.0) »	261 (1.2)	7 (0.9) «	243 (3.1)	2 (0.3) <	*** (***)
Hawaii	78 (0.9) »	262 (1.0)	14 (0.6) «	242 (2.4) >	8 (0.6)	234 (2.3)
Idaho	93 (0.9) »	275 (0.7)	3 (0.5) «	267 (4.8)	3 (0.7)	255 (8.6)!
Indiana	90 (1.1) »	271 (1.2)	6 (0.9) «	254 (2.9)	3 (0.6)	247 (4.4)
Iowa	90 (1.5) »	284 (1.0) >	8 (1.1) «	271 (3.5)	3 (0.7)	271 (7.7)!
Kentucky	84 (1.6)	264 (1.1) >	10 (1.1) <	250 (2.2)	5 (0.9)	243 (4.5)
Louisiana	88 (1.7) »	251 (1.7)	8 (1.1) «	240 (2.4)	4 (1.1)	233 (5.8)!
Maine	80 (2.2)	281 (1.0)	11 (1.5)	267 (2.3)	8 (1.3)	266 (7.2)
Maryland	76 (1.6) »	269 (1.4)	18 (1.4) «	250 (2.1)	6 (0.6)	247 (5.9)
Massachusetts	82 (1.7)	276 (1.0)	12 (1.2)	255 (2.2)	6 (1.1)	256 (4.7)
Michigan	85 (1.7) >	270 (1.4)	9 (1.0) «	248 (3.9)	6 (1.1)	251 (6.2)
Minnesota	93 (1.2) »	283 (1.0) >	5 (0.7) «	265 (4.5)	3 (0.8)	267 (3.8)!
Mississippi	87 (1.5)	247 (1.2)	10 (1.1)	238 (4.0)	3 (0.7)	227 (4.6)!
Missouri	86 (1.9)	272 (1.2)	9 (1.1)	262 (2.5)	5 (1.1)	258 (5.1)!
Nebraska	90 (1.4) »	279 (1.1)	7 (1.1) «	261 (3.9)	3 (0.6)	239 (6.3)! «
New Hampshire	79 (2.2) >	280 (1.1)	13 (1.3) «	273 (2.4)	8 (1.2)	267 (3.1)
New Jersey	82 (2.0)	274 (1.5)	14 (1.6) <	264 (3.6)	5 (1.0)	252 (6.0)!
New Mexico	83 (1.7) >	262 (0.9)	10 (0.9) «	243 (2.4)	7 (1.3)	245 (2.9)
New York	71 (3.0)	269 (2.2)	16 (1.3) «	259 (3.4)	13 (2.3)	255 (4.9)
North Carolina	88 (1.0) »	261 (1.2) >	8 (0.8) «	238 (3.0)	4 (0.6)	234 (5.5)
North Dakota	90 (1.8) »	284 (1.2)	4 (1.0) «	272 (3.5)!	6 (1.3)	274 (2.1)!
Ohio	83 (1.6) >	271 (1.6) >	12 (1.2) «	254 (2.7)	5 (0.8) >	237 (3.2)
Oklahoma	92 (1.2) >	269 (1.1)	5 (0.7) «	251 (4.6)	3 (0.7)	237 (5.0)
Pennsylvania	85 (1.6) »	274 (1.4)	10 (1.1) «	255 (3.0)	5 (1.0)	250 (4.8)
Rhode Island	82 (1.1) »	269 (0.9) >	13 (1.0) «	251 (2.1)	5 (0.5)	243 (2.8) >
South Carolina	87 (1.3)	262 (1.1)	9 (0.8)	245 (2.2)	4 (0.8)	243 (5.3)
Tennessee	84 (1.9)	261 (1.6)	12 (1.4)	248 (2.3)	4 (0.8)	236 (4.1)
Texas	80 (1.4) »	268 (1.4) >	14 (1.1) «	247 (2.8)	5 (0.7)	248 (4.6)
Utah	91 (1.1)	276 (0.7)	5 (0.6)	253 (3.0)	4 (0.8)	253 (3.6)
Virginia	87 (1.4) »	269 (1.2)	9 (1.1) «	251 (3.2)	4 (0.6)	256 (6.0)
West Virginia	92 (0.8) »	260 (1.0)	6 (0.7) «	244 (3.0)	2 (0.4)	*** (***)
Wisconsin	85 (1.7)	280 (1.3)	10 (1.0) «	262 (3.6)	5 (1.1)	263 (5.3)!
Wyoming	83 (1.7)	276 (1.0)	7 (0.8) «	269 (2.7)	10 (1.5)	267 (2.2)
TERRITORIES						
Guam	79 (1.0) »	239 (1.2)	13 (0.8) «	221 (2.4)	8 (0.6)	211 (3.0)
Virgin Islands	81 (0.8) »	223 (1.3)	15 (0.5) «	218 (2.1)	4 (0.5) <	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.10 | Students' Reports on the Frequency with Which They Do Mathematics Problems from Textbooks in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	74 (1.9)	267 (1.3)	20 (1.2)	249 (1.8)	6 (1.0)	241 (6.0)
Northeast	72 (5.3)	276 (3.8)	21 (2.7)	256 (5.0)	7 (2.9)	*** (***)
Southeast	78 (2.4)	259 (2.5)	17 (1.7)	244 (4.1)	4 (2.0)	*** (***)
Central	74 (4.7)	270 (1.8)	20 (3.0)	248 (3.8)	6 (2.4)	*** (***)
West	71 (3.5)	267 (2.5)	22 (2.6)	250 (3.0)	7 (1.3)	235(14.5)
STATES						
Alabama	83 (1.2)	255 (1.2)	15 (1.1)	244 (2.1)	3 (0.4)	*** (***)
Arizona	79 (1.4)	264 (1.3)	16 (0.9)	245 (2.4)	5 (0.8)	243 (4.7)
Arkansas	81 (1.6)	260 (1.0)	16 (1.4)	244 (2.4)	2 (0.4)	*** (***)
California	69 (2.0)	262 (1.4)	24 (1.5)	245 (2.5)	8 (1.1)	242 (4.2)
Colorado	73 (2.1)	272 (1.0)	20 (1.4)	256 (2.0)	7 (1.2)	249 (3.3)
Connecticut	67 (2.2)	274 (1.1)	26 (1.4)	263 (1.7)	8 (1.8)	256 (2.6)!
Delaware	68 (1.1)	266 (1.2)	23 (1.0)	251 (2.0)	9 (0.6)	249 (3.0)
Dist. Columbia	53 (1.1)	234 (1.4)	38 (1.1)	230 (1.1)	9 (0.7)	219 (1.9)
Florida	76 (1.4)	261 (1.3)	19 (1.2)	240 (2.0)	4 (0.6)	230 (3.9)
Georgia	76 (1.7)	263 (1.4)	21 (1.5)	248 (2.3)	3 (0.4)	234 (4.3)
Hawaii	70 (0.9)	259 (0.9)	23 (0.8)	234 (1.5)	7 (0.4)	229 (2.9)
Idaho	83 (0.9)	274 (0.8)	13 (0.7)	262 (2.1)	4 (0.5)	243 (4.6)
Indiana	82 (1.5)	270 (1.1)	15 (1.2)	257 (2.2)	2 (0.6)	251 (4.9)!
Iowa	79 (2.2)	279 (1.1)	15 (1.7)	273 (2.7)	5 (1.2)	270 (3.9)!
Kentucky	82 (1.6)	259 (1.6)	15 (1.4)	251 (3.1)	3 (0.5)	236 (4.3)
Louisiana	79 (1.4)	249 (1.4)	18 (1.1)	240 (1.9)	3 (0.5)	228 (3.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	62 (2.2)	266 (1.8)	30 (1.7)	254 (1.6)	7 (1.1)	246 (3.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	77 (2.0)	267 (1.4)	16 (1.4)	256 (2.7)	6 (1.4)	254 (5.5)!
Minnesota	81 (1.5)	278 (1.0)	14 (1.4)	265 (2.0)	4 (1.1)	255 (5.6)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	83 (1.3)	278 (1.0)	14 (1.3)	266 (2.7)	3 (0.3)	268 (4.4)
New Hampshire	72 (1.4)	276 (1.0)	21 (1.2)	267 (1.5)	7 (0.7)	266 (3.0)
New Jersey	78 (1.6)	273 (1.2)	19 (1.4)	259 (2.0)	3 (0.6)	263 (6.1)
New Mexico	78 (0.9)	259 (0.9)	16 (1.0)	249 (2.5)	6 (0.5)	245 (2.0)
New York	63 (2.4)	266 (1.9)	29 (1.7)	253 (1.9)	9 (1.1)	247 (3.6)
North Carolina	77 (1.4)	255 (1.2)	19 (1.2)	237 (1.8)	4 (0.5)	229 (5.8)
North Dakota	80 (1.2)	284 (1.3)	14 (1.0)	270 (3.3)	6 (0.7)	277 (3.9)
Ohio	75 (2.2)	267 (1.1)	22 (1.9)	257 (1.8)	3 (0.5)	252 (6.3)
Oklahoma	86 (1.3)	266 (1.4)	11 (1.1)	252 (2.2)	2 (0.5)	*** (***)
Pennsylvania	75 (1.7)	270 (1.5)	22 (1.5)	256 (2.4)	4 (0.5)	259 (6.6)
Rhode Island	75 (0.8)	266 (0.8)	19 (0.8)	250 (1.6)	6 (0.4)	232 (2.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	72 (1.7)	262 (1.3)	22 (1.5)	250 (2.5)	6 (0.9)	244 (3.8)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	77 (1.8)	268 (1.6)	20 (1.5)	255 (2.6)	3 (0.6)	240 (3.5)
West Virginia	84 (1.2)	259 (0.9)	14 (1.2)	246 (2.6)	2 (0.3)	*** (***)
Wisconsin	78 (2.6)	276 (1.3)	17 (1.7)	268 (3.0)	5 (1.2)	268 (4.5)!
Wyoming	79 (0.8)	274 (0.7)	12 (0.6)	268 (2.2)	8 (0.4)	264 (2.1)
TERRITORIES						
Guam	68 (0.9)	239 (0.9)	24 (1.1)	219 (1.6)	8 (0.6)	213 (4.2)
Virgin Islands	73 (1.4)	221 (1.2)	21 (1.1)	216 (1.5)	6 (0.7)	204 (3.5)

TABLE 9.11 | Teachers' Reports on the Frequency with Which Students Do Mathematics Problems on Worksheets in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	26 (2.3)	218 (2.0)	58 (2.4)	217 (1.6)	16 (2.0)	215 (2.1)
Northeast	27 (4.8)	218 (5.4)	56 (4.0)	222 (3.6)	17 (3.4)	220 (4.9)!
Southeast	27 (4.6)	208 (3.9)!	54 (4.7)	209 (3.0)	19 (4.1)	203 (3.4)!
Central	21 (4.8)	226 (3.1)!	59 (5.5)	223 (2.9)	19 (5.2)	221 (4.2)!
West	29 (3.6)	221 (3.9)	60 (4.5)	215 (2.9)	10 (2.3)	219 (4.9)!
STATES						
Alabama	24 (2.8)	203 (2.6)	56 (3.2)	208 (2.2)	20 (2.6)	209 (3.2)
Arizona	25 (2.7)	215 (2.2)	58 (3.0)	214 (1.7)	16 (2.5)	215 (2.7)
Arkansas	20 (3.3)	208 (1.5)	57 (3.5)	208 (1.2)	22 (3.3)	213 (2.9)
California	23 (2.8)	205 (3.1)	47 (4.0)	208 (2.6)	30 (3.5)	209 (2.9)
Colorado	23 (2.9)	216 (2.4)	55 (3.3)	220 (1.4)	22 (2.9)	225 (3.0)
Connecticut	24 (2.5)	231 (2.2)	55 (2.9)	227 (2.0)	21 (2.5)	224 (2.4)
Delaware	37 (1.0)	219 (1.4)	51 (0.8)	216 (1.2)	12 (0.6)	217 (3.3)
Dist. Columbia	24 (0.8)	190 (1.6)	59 (1.0)	193 (1.0)	17 (0.8)	185 (2.5)
Florida	23 (2.9)	214 (2.3)	50 (2.7)	212 (1.5)	27 (3.1)	211 (2.6)
Georgia	27 (3.6)	217 (2.5)	50 (3.1)	213 (2.0)	23 (3.2)	213 (3.9)
Hawaii	21 (2.4)	212 (3.0)	55 (2.9)	214 (1.7)	24 (2.6)	212 (2.4)
Idaho	22 (3.2)	221 (2.4)	55 (3.8)	220 (1.3)	22 (3.3)	221 (1.5)
Indiana	24 (3.3)	222 (2.2)	58 (3.1)	219 (1.2)	18 (2.8)	217 (2.8)
Iowa	26 (3.3)	233 (1.7)	46 (3.1)	227 (1.6)	27 (3.5)	229 (2.3)
Kentucky	30 (4.0)	216 (1.9)	53 (3.8)	212 (1.7)	17 (3.1)	215 (2.6)
Louisiana	29 (3.0)	206 (2.4)	59 (3.6)	201 (1.9)	12 (2.7)	203 (4.8)!
Maine	28 (3.1)	229 (1.4)	52 (4.4)	231 (1.4)	20 (3.3)	231 (2.7)
Maryland	28 (2.8)	223 (2.8)	47 (3.1)	215 (2.1)	25 (3.0)	218 (2.9)
Massachusetts	37 (2.9)	229 (1.9)	53 (2.6)	226 (1.4)	10 (2.1)	225 (3.1)!
Michigan	19 (2.9)	227 (4.3)	55 (3.8)	216 (1.9)	26 (3.8)	219 (3.2)
Minnesota	24 (3.5)	227 (2.8)	53 (4.0)	227 (1.3)	22 (3.6)	228 (3.1)
Mississippi	15 (2.6)	202 (2.9)	65 (3.4)	199 (1.5)	20 (3.1)	204 (3.4)
Missouri	34 (4.0)	225 (2.2)	49 (3.3)	221 (2.0)	17 (2.6)	219 (2.5)
Nebraska	20 (3.0)	224 (2.4)	52 (3.9)	225 (2.1)	28 (3.5)	226 (2.4)
New Hampshire	29 (3.4)	231 (2.3)	51 (2.9)	228 (1.5)	20 (3.0)	228 (2.2)
New Jersey	39 (3.8)	228 (2.4)	48 (3.6)	227 (2.0)	13 (2.1)	225 (5.0)
New Mexico	18 (3.1)	216 (2.2)	53 (3.0)	213 (1.7)	29 (3.1)	208 (2.2)
New York	43 (3.6)	217 (2.4)	38 (3.8)	219 (2.1)	19 (2.8)	213 (2.8)
North Carolina	11 (2.0)	209 (2.8)	62 (2.9)	213 (1.2)	26 (2.5)	213 (2.0)
North Dakota	33 (4.4)	226 (1.7)	50 (4.7)	228 (1.3)	17 (3.7)	231 (1.4)!
Ohio	30 (3.7)	220 (2.3)	54 (3.6)	216 (1.9)	16 (2.5)	216 (2.4)
Oklahoma	26 (3.7)	218 (2.1)	53 (3.8)	220 (1.3)	21 (2.8)	221 (2.4)
Pennsylvania	52 (3.9)	225 (1.8)	39 (3.4)	221 (2.4)	9 (1.7)	220 (5.4)!
Rhode Island	37 (2.9)	217 (2.5)	49 (3.1)	213 (1.8)	14 (1.9)	210 (3.9)
South Carolina	18 (3.0)	208 (2.2)	56 (3.2)	212 (1.6)	26 (3.1)	213 (2.0)
Tennessee	22 (2.9)	208 (2.5)	58 (3.2)	210 (1.8)	20 (2.9)	211 (2.2)
Texas	30 (3.4)	219 (2.3)	55 (4.1)	217 (1.9)	15 (2.7)	214 (4.2)!
Utah	28 (3.0)	225 (1.8)	53 (3.3)	222 (1.2)	20 (2.3)	223 (2.4)
Virginia	22 (2.8)	219 (3.2)	53 (3.1)	219 (1.9)	25 (3.3)	220 (2.7)
West Virginia	18 (2.4)	215 (1.8)	56 (3.2)	213 (1.7)	26 (2.5)	213 (2.3)
Wisconsin	35 (3.0)	228 (1.7)	49 (3.0)	228 (1.9)	15 (2.5)	230 (2.4)
Wyoming	40 (3.5)	224 (1.4)	47 (3.2)	225 (1.3)	13 (2.2)	225 (2.3)
TERRITORY						
Guam	24 (1.2)	194 (1.8)	45 (1.2)	192 (1.2)	31 (1.0)	189 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.11 | Teachers' Reports on the Frequency with Which Students Do Mathematics Problems on Worksheets in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	12 (1.9)	259 (4.9)	54 (2.2)	266 (1.6)	35 (2.7)	273 (1.9)
Northeast	13 (5.4)	271(13.1)!	50 (5.0)	264 (5.1)	38 (6.7)	272 (3.7)
Southeast	15 (4.9)	256 (4.7)!	54 (5.2)	262 (1.7)	31 (7.3)	264 (3.2)!
Central	8 (3.3)	266 (4.0)!	66 (5.5)	272 (3.6)	26 (4.5)	286 (3.5)
West	10 (1.8)	250 (4.6)	47 (2.6)	265 (2.7)	42 (2.7)	275 (2.8)
STATES						
Alabama	11 (3.1)	238(10.7)!	53 (4.2)«	251 (1.9)	36 (3.8) >	258 (2.7)
Arizona	6 (1.4)	249 (4.4)!	48 (3.1)<	264 (1.7) >	46 (3.1)	267 (2.0)
Arkansas	10 (2.5)	245 (5.0)!	57 (4.0)	253 (1.6)	32 (4.1)	265 (2.1)
California	11 (2.0)	256 (4.0)	39 (3.4)«	259 (2.8)	50 (3.7) >	264 (2.2)
Colorado	14 (1.9) >	259 (2.9)	52 (3.1)	270 (1.5) >	33 (3.3)	279 (1.8)
Connecticut	16 (2.9) >	264 (5.0)	54 (3.1)<	276 (1.8) >	30 (3.0)	273 (3.1)
Delaware	18 (0.8)»	250 (1.7)	62 (1.1)«	260 (1.3)	21 (1.0)»	278 (2.1)
Dist. Columbia	13 (0.8)»	220 (2.5)	56 (1.2)«	230 (1.3)	31 (1.0)»	247 (2.1)»
Florida	9 (1.6)	242 (2.9)	42 (3.1)«	254 (2.1)	49 (3.5)»	267 (1.9)
Georgia	7 (1.9)	243 (4.5)!	57 (4.0)	255 (1.9)	36 (3.8)	266 (1.9)
Hawaii	11 (0.6)	238 (2.0)	53 (0.8)<	256 (1.1)»	36 (0.8)	265 (1.3)
Idaho	9 (1.8)	272 (3.7)! >	44 (3.5)<	271 (1.3)	47 (3.7)	278 (1.0)
Indiana	8 (2.1)	255 (4.0)!	54 (3.9)	265 (1.7)	38 (3.4)	279 (2.0)
Iowa	17 (4.2)	278 (3.0)!	51 (4.5)	283 (1.6)	32 (4.5)	286 (1.6) >
Kentucky	12 (2.3)	255 (5.4)!	54 (4.1)<	259 (1.2) >	35 (3.8)	270 (2.4)
Louisiana	7 (2.0)	248 (4.0)!	67 (4.3)	247 (1.8)	26 (3.9)	257 (3.8)
Maine	12 (1.6)	270 (4.9)	51 (3.8)	277 (1.9)	37 (3.8)	282 (1.7)
Maryland	13 (2.5)	259 (4.4)	59 (3.5)	262 (2.1)	28 (3.4)	276 (3.4) >
Massachusetts	15 (2.1)	261 (3.3)	55 (2.9)	272 (1.5)	30 (2.7)	279 (2.8)
Michigan	10 (2.1)	264 (5.0)!	60 (3.7)	264 (2.3)	30 (3.4)	272 (2.8)
Minnesota	9 (2.6)	276 (3.9)!	47 (4.0)<	276 (2.0)	44 (4.0) >	288 (1.7)
Mississippi	11 (2.7)	235 (5.7)!	57 (4.1)	244 (1.7)	32 (3.8)	251 (2.1)
Missouri	8 (2.0)	264 (3.9)!	51 (3.5)	268 (1.3)	41 (3.5)	276 (1.9)
Nebraska	14 (3.1)	275 (3.4)!	54 (4.2)<	273 (1.7)	33 (4.0)	286 (2.3)
New Hampshire	22 (3.0)»	276 (2.1)	51 (3.0)«	276 (1.3)»	27 (2.7)	282 (2.4)
New Jersey	19 (3.1) >	270 (3.8)	48 (4.2)«	268 (2.7)	33 (3.6) >	277 (3.2)
New Mexico	14 (2.4)	258 (2.3)	39 (2.9)«	256 (1.5)	47 (3.4) >	262 (1.6)
New York	21 (3.7) >	260 (4.7)	49 (3.8)<	269 (3.3)	30 (3.7)	263 (3.5)
North Carolina	9 (1.5)	251 (4.9)	57 (3.4)«	254 (1.7)	34 (3.3) >	265 (1.9)
North Dakota	15 (2.6)	283 (2.2)	45 (3.7)<	282 (2.0)	40 (3.6)	284 (1.2)
Ohio	12 (2.2)»	261 (3.6)	58 (4.9)	266 (1.9)	30 (4.7)	278 (4.4)
Oklahoma	8 (2.5)	256 (3.9)!	42 (3.3)<	264 (2.1)	50 (3.2)	272 (1.4)
Pennsylvania	10 (2.1)	253 (4.8)!	58 (2.9)	271 (1.6)	32 (2.9)	277 (2.9)
Rhode Island	11 (0.6)»	256 (2.2)	53 (0.9)«	265 (1.2) >	35 (0.8)»	269 (1.2)»
South Carolina	12 (2.2)	245 (3.7)	54 (2.8)	259 (1.4)	34 (2.5)	269 (2.6)
Tennessee	13 (2.7)	248 (4.1)!	56 (4.0)	259 (1.8)	31 (3.9)	259 (2.4)
Texas	10 (2.1)	255 (3.8)!	52 (3.9)<	259 (2.1)	38 (3.7)	275 (2.3)»
Utah	6 (1.3)	262 (4.2)!	45 (2.5)	269 (1.3)	49 (2.5)	279 (1.2)
Virginia	7 (1.3)	257 (5.0)	63 (2.8)	265 (1.5)	30 (2.8)	274 (2.8)
West Virginia	5 (1.2)	252 (4.3)!	50 (3.5)<	256 (1.4)	45 (3.5) >	262 (1.7)
Wisconsin	6 (1.4)	269 (5.5)!	55 (4.4)	275 (2.0)	39 (4.5)	284 (1.8)
Wyoming	10 (2.1)	272 (2.6)!	46 (3.1)«	271 (1.3)	44 (3.0)»	279 (1.4) >
TERRITORIES						
Guam	5 (0.5)	224 (6.0)	47 (1.3)«	232 (1.6)	48 (1.2)»	239 (1.5)<
Virgin Islands	5 (0.4)»	*** (***)	68 (0.8)«	219 (1.3)	27 (0.8)»	227 (1.5)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 9.11

Teachers' Reports on the Frequency with Which Students Do Mathematics Problems on Worksheets in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	5 (1.7)	264 (5.3)!	63 (3.5)	257 (1.8)	32 (3.6)	274 (2.7)
Northeast	7 (5.2)	*** (***)	78 (6.7)	265 (3.1)	15 (4.6)	*** (***)
Southeast	4 (2.8)	*** (***)	70 (8.7)	256 (2.9)	27 (8.6)	263 (6.6)!
Central	7 (4.8)	*** (***)	54 (5.5)	251 (4.1)	39 (7.0)	276 (4.1)
West	4 (1.5)	*** (***)	55 (5.5)	258 (4.0)	41 (5.6)	273 (4.0)
STATES						
Alabama	6 (1.6)	250 (5.5)!	73 (3.3)	251 (1.3)	22 (3.1)	262 (3.3)
Arizona	6 (1.6)	256 (4.1)!	58 (2.9)	256 (1.6)	36 (2.8)	266 (2.3)
Arkansas	4 (1.4)	256 (6.3)!	63 (3.7)	256 (1.3)	33 (3.3)	260 (2.2)
California	7 (1.7)	257 (7.7)!	59 (3.0)	255 (1.8)	34 (2.9)	260 (3.0)
Colorado	7 (1.5)	257 (3.9)!	62 (3.2)	264 (1.4)	31 (3.3)	274 (2.2)
Connecticut	7 (1.4)	275 (3.7)!	67 (2.7)	270 (1.2)	26 (2.8)	270 (2.5)
Delaware	13 (0.7)	255 (2.2)	72 (1.5)	258 (1.2)	15 (1.2)	278 (2.8)
Dist. Columbia	1 (0.2)	*** (***)	78 (0.9)	233 (1.1)	20 (0.9)	234 (1.7)
Florida	7 (1.5)	247 (3.6)!	61 (2.8)	255 (1.8)	32 (2.7)	263 (2.9)
Georgia	6 (1.5)	248 (6.7)!	68 (3.0)	257 (1.5)	26 (2.9)	263 (2.9)
Hawaii	10 (0.6)	243 (2.1)	57 (0.9)	244 (1.2)	34 (0.8)	268 (1.5)
Idaho	5 (0.8)	253 (4.0)	58 (2.1)	269 (1.1)	38 (2.0)	278 (1.2)
Indiana	5 (1.8)	255 (5.0)!	62 (3.8)	264 (1.8)	33 (3.8)	277 (2.3)
Iowa	14 (3.2)	276 (3.6)!	54 (4.6)	278 (1.7)	32 (3.8)	278 (2.2)
Kentucky	7 (1.7)	256 (3.7)!	67 (3.3)	254 (1.3)	26 (3.5)	266 (2.2)
Louisiana	4 (1.5)	248 (4.3)!	67 (4.4)	245 (1.8)	29 (4.4)	249 (2.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	8 (1.7)	256 (5.6)!	68 (3.1)	262 (2.2)	23 (2.6)	262 (3.3)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	8 (1.8)	258 (4.8)!	62 (4.0)	262 (1.6)	31 (3.7)	271 (3.3)
Minnesota	6 (1.4)	265 (3.5)!	65 (3.8)	273 (1.4)	29 (3.6)	283 (2.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	11 (2.5)	275 (4.0)!	67 (3.4)	275 (1.4)	22 (2.6)	279 (2.1)
New Hampshire	8 (1.3)	277 (2.9)	67 (1.6)	270 (1.1)	25 (1.2)	279 (2.9)
New Jersey	9 (2.1)	265 (6.0)!	69 (3.3)	267 (1.6)	22 (2.8)	281 (4.2)
New Mexico	9 (0.6)	252 (2.1)	53 (1.5)	255 (0.8)	38 (1.4)	261 (1.4)
New York	7 (1.9)	253 (5.4)!	66 (3.2)	260 (1.9)	27 (3.4)	263 (3.0)
North Carolina	6 (1.1)	235 (5.8)	73 (2.7)	250 (1.5)	21 (2.8)	257 (3.3)
North Dakota	9 (2.0)	282 (2.5)!	62 (3.4)	280 (1.5)	29 (2.7)	285 (2.4)
Ohio	3 (1.1)	258 (3.4)!	67 (3.7)	261 (1.7)	30 (3.8)	276 (1.9)
Oklahoma	4 (1.8)	256 (4.1)!	55 (3.3)	262 (1.6)	40 (3.0)	267 (2.1)
Pennsylvania	12 (2.1)	259 (5.3)	64 (3.2)	267 (2.1)	25 (3.3)	272 (3.6)
Rhode Island	9 (0.4)	257 (2.0)	61 (0.9)	260 (0.9)	30 (0.9)	262 (1.3)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	8 (2.1)	257 (7.0)!	66 (3.6)	254 (1.6)	27 (3.3)	259 (3.2)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	4 (1.1)	258 (5.7)!	68 (3.2)	262 (1.8)	27 (3.2)	269 (3.4)
West Virginia	4 (1.6)	248 (3.9)!	64 (3.3)	255 (1.2)	32 (3.4)	251 (2.2)
Wisconsin	8 (2.3)	263 (3.3)!	64 (3.7)	275 (1.7)	28 (3.3)	280 (2.3)
Wyoming	10 (0.4)	267 (2.8)	59 (1.7)	274 (0.8)	31 (1.7)	273 (1.2)
TERRITORIES						
Guam	6 (0.6)	217 (4.2)	64 (0.9)	229 (1.0)	30 (1.1)	244 (1.1)
Virgin Islands	2 (0.2)	*** (***)	76 (0.6)	218 (1.2)	22 (0.6)	232 (2.0)

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TABLE 9.12 | Students' Reports on the Frequency with Which They Do Mathematics Problems on Worksheets in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	45 (1.4)	218 (1.2)	37 (0.9)	219 (1.1)	18 (1.0)	215 (1.5)
Northeast	47 (4.4)	225 (2.7)	34 (2.5)	222 (2.6)	19 (2.7)	219 (3.3)
Southeast	40 (2.1)	205 (2.4)	39 (1.8)	212 (2.8)	22 (2.0)	209 (2.4)
Central	41 (3.2)	221 (2.8)	40 (1.9)	224 (2.0)	19 (2.1)	221 (3.3)
West	52 (1.7)	218 (2.1)	33 (1.0)	218 (2.0)	15 (1.4)	214 (3.1)
STATES						
Alabama	34 (1.5)	201 (1.9)	44 (1.6)	211 (1.7)	22 (1.9)	210 (2.9)
Arizona	47 (1.3)	213 (1.3)	35 (1.1)	217 (1.7)	18 (0.9)	210 (1.9)
Arkansas	34 (1.8)	201 (1.2)	44 (1.7)	214 (1.2)	22 (1.8)	210 (2.1)
California	47 (1.1)	204 (1.8)	32 (1.3)	211 (2.0)	21 (0.9)	208 (2.8)
Colorado	47 (1.5)	220 (1.2)	37 (1.3)	222 (1.3)	16 (1.0)	216 (2.2)
Connecticut	48 (1.8)	227 (1.6)	35 (1.4)	226 (1.5)	17 (1.1)	224 (2.4)
Delaware	47 (1.0)	215 (1.2)	37 (1.0)	221 (1.2)	16 (0.9)	211 (2.6)
Dist. Columbia	52 (1.0)	189 (0.7)	32 (1.0)	198 (1.2)	16 (0.9)	187 (1.8)
Florida	37 (1.7)	208 (1.6)	39 (1.6)	217 (2.1)	24 (1.6)	213 (2.3)
Georgia	40 (1.6)	211 (1.6)	41 (1.3)	219 (1.6)	19 (1.3)	212 (2.1)
Hawaii	31 (1.6)	210 (2.0)	38 (1.1)	216 (1.7)	31 (1.6)	214 (1.8)
Idaho	42 (2.1)	219 (1.3)	38 (1.8)	222 (1.3)	20 (1.5)	220 (1.5)
Indiana	42 (2.0)	219 (1.3)	39 (1.3)	221 (1.5)	19 (1.7)	218 (1.8)
Iowa	46 (2.5)	228 (1.1)	34 (1.7)	230 (1.5)	20 (1.8)	230 (2.2)
Kentucky	42 (2.1)	213 (1.5)	42 (1.7)	216 (1.4)	15 (1.6)	211 (2.7)
Louisiana	39 (1.7)	200 (1.9)	42 (1.3)	206 (1.6)	19 (1.5)	203 (2.4)
Maine	49 (1.7)	229 (1.3)	36 (1.5)	233 (1.3)	15 (1.4)	231 (2.0)
Maryland	42 (1.9)	215 (1.8)	35 (1.5)	219 (1.8)	22 (1.3)	214 (2.0)
Massachusetts	53 (1.7)	226 (1.5)	35 (1.4)	227 (1.7)	12 (1.2)	223 (2.3)
Michigan	46 (1.8)	217 (2.0)	35 (1.3)	222 (2.0)	19 (1.5)	217 (2.8)
Minnesota	46 (2.3)	225 (1.2)	36 (1.5)	230 (1.6)	19 (1.9)	229 (2.1)
Mississippi	35 (1.6)	195 (1.7)	43 (1.4)	205 (1.5)	22 (1.4)	200 (1.7)
Missouri	44 (2.7)	220 (1.8)	39 (2.0)	223 (1.6)	18 (2.0)	220 (2.3)
Nebraska	37 (2.3)	223 (1.8)	42 (1.8)	225 (1.7)	21 (1.7)	226 (1.9)
New Hampshire	50 (2.2)	229 (1.5)	35 (1.6)	229 (1.3)	15 (1.4)	227 (2.5)
New Jersey	40 (2.3)	224 (2.0)	39 (1.8)	228 (1.7)	21 (1.7)	226 (2.9)
New Mexico	36 (2.4)	208 (1.7)	38 (1.7)	216 (2.0)	26 (2.1)	213 (2.3)
New York	43 (1.8)	216 (1.8)	33 (1.5)	220 (1.8)	24 (1.5)	215 (2.0)
North Carolina	32 (1.6)	206 (1.6)	47 (1.2)	216 (1.6)	22 (1.1)	210 (1.5)
North Dakota	42 (2.7)	223 (1.4)	41 (2.4)	231 (1.2)	17 (1.7)	230 (1.5)
Ohio	48 (2.1)	217 (1.7)	38 (1.4)	219 (1.4)	14 (1.4)	215 (2.3)
Oklahoma	42 (2.2)	216 (1.3)	38 (1.6)	221 (1.4)	20 (1.9)	222 (1.9)
Pennsylvania	52 (2.2)	223 (1.7)	34 (1.4)	224 (1.7)	15 (1.5)	222 (2.9)
Rhode Island	52 (1.9)	213 (1.9)	33 (1.5)	216 (1.7)	15 (1.3)	213 (2.7)
South Carolina	34 (1.7)	204 (1.4)	42 (1.5)	215 (1.4)	24 (1.4)	215 (2.1)
Tennessee	36 (1.8)	205 (1.5)	45 (1.5)	214 (1.6)	20 (1.6)	208 (2.3)
Texas	52 (1.5)	218 (1.4)	34 (1.4)	220 (1.5)	14 (1.1)	208 (2.6)
Utah	46 (1.6)	221 (1.3)	34 (1.2)	226 (1.3)	21 (1.4)	223 (1.7)
Virginia	32 (1.8)	215 (2.0)	44 (1.4)	223 (1.6)	24 (1.7)	222 (2.0)
West Virginia	34 (1.9)	211 (1.5)	44 (1.8)	216 (1.3)	22 (1.6)	215 (1.8)
Wisconsin	45 (2.3)	226 (1.7)	39 (2.0)	231 (1.3)	16 (1.8)	226 (2.0)
Wyoming	57 (1.9)	223 (1.1)	30 (1.5)	227 (1.4)	12 (1.1)	223 (1.7)
TERRITORY						
Guam	42 (1.1)	192 (1.4)	32 (1.0)	194 (1.7)	25 (1.0)	187 (1.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 9.12

Students' Reports on the Frequency with Which They Do Mathematics Problems on Worksheets in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (1.4)	256 (2.5)	42 (1.2)	266 (1.4)	36 (1.7)	273 (1.3)
Northeast	25 (4.3)	260 (7.1)	36 (2.3)	266 (4.3)	39 (3.7)	276 (3.0)
Southeast	20 (2.4)	248 (2.9)	47 (2.3)	260 (2.1)	33 (2.4)	262 (1.8)
Central	23 (2.7)	263 (4.1)	42 (3.1)	272 (2.6)	35 (3.9)	281 (3.4)
West	21 (2.1)	252 (3.3)	42 (1.8)	267 (3.3)	37 (3.2)	275 (2.4)
STATES						
Alabama	19 (2.1) >	243 (3.4)	46 (2.0)	250 (1.8)	35 (2.5)	258 (2.0)
Arizona	20 (1.7) >	253 (2.6)	41 (1.8) <	262 (1.3) >	40 (2.4)	273 (1.6) >
Arkansas	21 (1.9) >	245 (2.3)	43 (1.8)	255 (1.4)	36 (2.5)	262 (1.7)
California	30 (1.8) >	251 (2.4)	34 (2.0) «	259 (2.4)	36 (2.3)	269 (2.3)
Colorado	25 (2.0) >	261 (2.3)	42 (1.7)	272 (1.2) »	33 (2.2)	280 (1.3) >
Connecticut	28 (2.0) >	264 (1.9)	43 (1.8)	274 (1.7)	29 (1.8)	281 (2.0)
Delaware	38 (1.0) »	252 (1.2)	38 (1.1) «	263 (2.0)	24 (1.0)	278 (1.7)
Dist. Columbia	38 (1.1) »	225 (1.2)	41 (1.2) «	238 (1.6)	20 (0.9)	244 (2.7)
Florida	18 (1.6)	243 (2.4)	41 (1.6) «	256 (1.6)	41 (2.4)	270 (1.9)
Georgia	20 (1.8)	245 (2.0)	51 (1.8)	259 (1.5)	29 (2.0)	268 (1.8)
Hawaii	27 (1.1) »	243 (1.6) >	40 (1.1) «	256 (1.5) »	33 (1.0)	268 (1.4)
Idaho	13 (1.4)	267 (2.1) >	37 (1.6) <	272 (1.3)	50 (2.2)	278 (1.0)
Indiana	16 (1.6)	256 (1.9)	45 (1.6)	267 (1.3)	40 (2.1)	277 (1.8)
Iowa	25 (3.5)	276 (2.0)	39 (2.4)	282 (1.5)	35 (3.0)	288 (1.5) »
Kentucky	25 (1.9) »	252 (1.9)	45 (1.8)	261 (1.4) >	30 (2.2)	269 (1.9) >
Louisiana	22 (2.0) »	243 (2.5)	49 (1.6) <	249 (1.7)	29 (2.2)	255 (2.4)
Maine	24 (2.4)	272 (2.8)	41 (1.7)	277 (1.5)	35 (2.5)	283 (1.3)
Maryland	28 (2.2)	252 (2.1)	44 (1.4) <	267 (1.7)	28 (2.1)	274 (2.3)
Massachusetts	25 (2.0)	263 (2.1)	39 (1.3)	272 (1.5)	35 (2.1)	279 (1.7)
Michigan	22 (2.3)	255 (3.1)	42 (1.8)	266 (1.8)	36 (2.3)	274 (2.0)
Minnesota	18 (2.0)	270 (2.0)	39 (1.8) <	280 (1.5) >	43 (2.4)	288 (1.5) >
Mississippi	25 (1.8)	237 (2.1)	51 (1.6)	247 (1.7)	25 (2.0)	251 (2.1)
Missouri	22 (2.3)	263 (2.2)	41 (1.7)	268 (1.3)	37 (2.5)	277 (1.9)
Nebraska	21 (2.5) >	270 (2.8)	41 (2.1) «	274 (1.7)	38 (2.6)	284 (1.9)
New Hampshire	29 (2.0) »	272 (1.6)	41 (1.4) «	277 (1.1) >	30 (2.0)	284 (2.0)
New Jersey	31 (2.2) »	266 (2.6)	38 (1.3) «	271 (2.2)	31 (2.3)	277 (2.3)
New Mexico	22 (2.1) >	253 (2.1)	40 (1.9)	256 (1.3)	38 (2.3)	265 (1.2)
New York	31 (3.2) »	260 (3.4)	36 (1.6) «	268 (2.4)	33 (2.9)	269 (3.0)
North Carolina	24 (1.6) >	248 (2.5) >	52 (1.3)	258 (1.3) »	24 (1.6)	266 (2.0) >
North Dakota	16 (2.0)	278 (2.3)	39 (2.2)	283 (1.5)	45 (2.4)	284 (1.3)
Ohio	29 (2.1) »	258 (2.1)	45 (2.4)	267 (1.6) >	26 (3.1)	278 (2.8)
Oklahoma	13 (1.6)	256 (2.9)	43 (2.1)	266 (1.7)	44 (2.3)	272 (1.6)
Pennsylvania	24 (2.0) >	260 (2.6)	42 (1.8)	271 (1.7)	34 (2.2)	278 (2.1)
Rhode Island	29 (0.9) »	257 (1.5) »	41 (1.0) <	265 (1.2) »	30 (1.0) «	273 (1.3)
South Carolina	25 (1.6)	250 (2.3)	49 (1.5)	261 (1.3)	26 (1.6)	268 (1.9)
Tennessee	25 (2.3)	252 (2.1)	47 (1.8)	259 (1.6)	28 (2.5)	262 (3.0)
Texas	27 (2.0) >	254 (2.0)	47 (1.6)	263 (1.7) >	26 (2.1)	275 (2.3) >
Utah	13 (1.3)	260 (2.3)	34 (1.4)	270 (1.1)	53 (1.7)	280 (1.0)
Virginia	23 (1.6) »	254 (2.0)	50 (1.4) <	267 (1.3)	27 (1.6)	279 (1.9)
West Virginia	13 (1.1)	248 (2.2)	44 (1.7)	257 (1.2)	43 (2.1)	263 (1.5)
Wisconsin	21 (2.2)	266 (2.8)	38 (2.3) <	277 (1.6)	41 (3.2)	284 (1.7)
Wyoming	21 (1.7) »	268 (1.5)	38 (1.7) <	273 (1.3)	41 (1.7)	279 (1.3)
TERRITORIES						
Guam	22 (1.1) »	223 (1.7) »	41 (1.3) «	233 (1.7)	37 (1.2)	243 (1.7)
Virgin Islands	18 (0.9) »	214 (2.2) >	51 (1.4) «	224 (1.5) >	31 (1.3)	224 (1.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 9.12 | Students' Reports on the Frequency with Which They Do Mathematics Problems on Worksheets in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	17 (1.7)	247 (2.9)	46 (1.8)	260 (1.4)	37 (2.5)	272 (1.8)
Northeast	21 (4.3)	254 (4.1)!	45 (3.1)	268 (2.9)	34 (6.5)	282 (4.5)!
Southeast	16 (2.6)	237 (5.6)	55 (2.5)	254 (2.8)	29 (3.9)	265 (3.2)
Central	17 (4.8)	254 (5.4)!	42 (4.5)	261 (3.0)	40 (5.6)	273 (3.4)
West	17 (2.5)	243 (7.2)	42 (3.1)	259 (2.1)	41 (4.1)	269 (3.2)
STATES						
Alabama	12 (1.3)	242 (2.9)	53 (2.3)	250 (1.6)	35 (2.6)	261 (1.7)
Arizona	12 (1.3)	250 (3.0)	48 (1.3)	256 (1.6)	40 (1.5)	268 (1.7)
Arkansas	15 (1.5)	244 (2.0)	48 (2.1)	254 (1.1)	37 (2.5)	264 (1.4)
California	22 (1.8)	247 (2.8)	45 (1.7)	254 (1.5)	33 (2.3)	266 (2.0)
Colorado	17 (1.7)	258 (2.1)	46 (1.6)	266 (1.1)	37 (2.2)	274 (1.4)
Connecticut	20 (2.0)	261 (1.9)	46 (1.8)	269 (1.4)	34 (2.3)	276 (1.6)
Delaware	27 (1.0)	250 (1.6)	46 (1.1)	259 (1.4)	26 (1.1)	275 (1.6)
Dist. Columbia	29 (1.1)	221 (0.9)	53 (1.2)	234 (1.1)	18 (0.7)	242 (2.3)
Florida	13 (1.3)	240 (1.9)	51 (1.6)	253 (1.4)	36 (1.8)	265 (1.7)
Georgia	16 (1.3)	246 (2.3)	55 (1.4)	259 (1.4)	28 (1.8)	267 (2.2)
Hawaii	22 (0.7)	236 (1.4)	46 (1.1)	247 (1.2)	32 (1.1)	268 (1.5)
Idaho	10 (1.2)	257 (2.9)	42 (1.0)	269 (0.9)	47 (1.5)	277 (1.2)
Indiana	12 (1.8)	250 (2.7)	48 (2.0)	268 (1.6)	40 (2.4)	272 (1.8)
Iowa	21 (2.8)	273 (2.8)	41 (2.8)	278 (1.6)	38 (2.7)	281 (1.4)
Kentucky	12 (1.5)	248 (2.5)	51 (2.2)	255 (1.5)	36 (2.4)	264 (1.5)
Louisiana	12 (1.4)	237 (3.0)	56 (1.8)	246 (1.4)	32 (2.2)	251 (1.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	23 (1.6)	253 (2.1)	50 (1.7)	261 (1.8)	27 (2.1)	267 (2.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	19 (2.1)	261 (2.2)	43 (2.0)	261 (1.5)	38 (2.3)	270 (2.1)
Minnesota	14 (1.4)	263 (3.3)	49 (2.3)	274 (1.2)	37 (2.4)	282 (1.5)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	13 (1.4)	271 (2.2)	53 (1.9)	274 (1.4)	34 (2.1)	280 (1.7)
New Hampshire	19 (1.3)	268 (2.0)	52 (1.2)	272 (1.2)	30 (1.0)	279 (2.2)
New Jersey	17 (1.2)	261 (2.1)	53 (1.6)	269 (1.3)	30 (1.6)	276 (2.0)
New Mexico	16 (0.7)	250 (1.7)	43 (1.1)	253 (1.3)	41 (1.1)	263 (1.2)
New York	18 (1.6)	252 (2.9)	45 (1.8)	261 (1.9)	36 (2.3)	265 (2.3)
North Carolina	18 (1.6)	237 (2.4)	56 (1.8)	251 (1.4)	27 (1.8)	259 (1.9)
North Dakota	17 (1.4)	276 (3.1)	42 (2.2)	281 (1.6)	40 (2.4)	284 (1.7)
Ohio	14 (1.7)	254 (2.5)	51 (1.8)	262 (1.4)	35 (2.3)	272 (1.7)
Oklahoma	10 (1.3)	250 (2.5)	44 (2.0)	261 (1.6)	46 (2.3)	268 (1.9)
Pennsylvania	18 (1.7)	257 (3.0)	47 (2.0)	267 (2.0)	35 (2.4)	271 (2.3)
Rhode Island	17 (0.6)	242 (1.5)	45 (1.0)	259 (1.0)	38 (1.0)	270 (1.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	19 (1.7)	250 (2.8)	51 (2.1)	257 (1.6)	30 (2.3)	266 (2.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	16 (1.1)	251 (2.7)	56 (1.6)	263 (1.5)	28 (1.7)	274 (2.8)
West Virginia	9 (1.4)	246 (2.8)	48 (1.9)	254 (1.5)	43 (2.4)	260 (1.3)
Wisconsin	17 (2.0)	266 (2.3)	48 (2.1)	274 (1.7)	34 (2.3)	280 (1.9)
Wyoming	13 (0.6)	265 (2.0)	43 (0.9)	270 (0.9)	44 (1.1)	277 (1.0)
TERRITORIES						
Guam	14 (0.7)	212 (2.5)	52 (1.3)	232 (1.1)	34 (1.0)	241 (1.7)
Virgin Islands	9 (0.7)	206 (2.2)	59 (1.5)	219 (1.2)	32 (1.3)	223 (1.5)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 9.13 Teachers' Reports on the Frequency of Small Group Activities and Projects in Mathematics Class, Grades 4 and 8

Work in small groups	Assessment Years	About how often do students in this class do the following types of activities for mathematics class?					
		At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	63 (2.5)	218 (1.3)>	28 (2.0)	218 (1.6)	9 (1.3)>	218 (2.4)
	1990	62 (3.1)	213 (1.3)	33 (3.1)	216 (1.8)	5 (1.0)	215 (3.6)
High ability	1992	71 (6.8)	240 (3.5)	15 (5.5)	230 (4.2)	14 (4.7)>	231 (5.8)
	1990	60(10.3)	242 (5.5)	38(10.6)	226 (6.5)	2 (1.9)	239 (*.*)
Average ability	1992	58 (4.2)	222 (1.8)>	31 (3.5)	221 (1.9)	11 (2.1)	220 (3.1)
	1990	60 (4.3)	212 (2.4)	31 (4.3)	217 (2.5)	9 (2.6)	219 (5.5)
Low ability	1992	65 (5.4)	193 (2.7)	27 (4.5)	205 (3.7)	8 (2.9)	192 (8.7)
	1990	71 (6.7)	204 (4.3)	26 (6.8)	196 (5.3)	3 (1.8)	196(13.8)
Mixed ability	1992	66 (4.0)	217 (1.5)	28 (3.4)	216 (2.5)	7 (1.5)	218 (5.2)
	1990	62 (5.9)	211 (2.5)	34 (5.8)	216 (2.6)	5 (1.7)	211 (4.6)
Grade 8							
Nation	1992	51 (2.5)	270 (1.5)>	32 (2.4)	268 (2.1)	17 (2.2)>	268 (2.7)
	1990	50 (4.1)	261 (2.1)	42 (3.9)	264 (2.3)	9 (2.0)	277 (4.5)
High ability	1992	56 (3.4)	302 (2.4)>	29 (3.7)	294 (2.9)	15 (2.3)	299 (4.0)
	1990	46 (5.1)	284 (3.9)	44 (5.0)	290 (3.2)	10 (3.1)	298 (5.8)
Average ability	1992	49 (4.4)	265 (2.0)	32 (3.4)	267 (2.5)	20 (3.3)	266 (2.9)
	1990	46 (4.8)	258 (3.1)	44 (5.1)	258 (2.8)	10 (3.2)	282 (6.1)
Low ability	1992	52 (5.1)	244 (2.3)	32 (4.9)	243 (3.1)	16 (3.5)	245 (4.5)
	1990	49 (7.4)	238 (3.9)	39 (7.0)	250 (5.8)	12 (4.3)	248 (7.3)
Mixed ability	1992	48 (4.5)	260 (2.6)	36 (5.6)	264 (3.3)	17 (4.1)	258 (4.0)
	1990	55 (8.7)	257 (4.6)	40 (8.9)	255 (4.9)	5 (3.3)	264(12.9)

(Table 9.13 continued on the next page)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

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TABLE 9.13 Teachers' Reports on the Frequency of Small Group Activities and Projects in Mathematics Class, Grades 4 and 8 (continued)

Write reports or do mathematics projects	Assessment Years	About how often do students in this class do the following types of activities for mathematics class?					
		At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	1 (0.4)	227(6.8)	17(2.0)	219(3.2)	82 (2.1)	218 (0.9)
High ability	1992	5 (3.8)	243(5.6)	18(7.0)	252(12.0)	76 (7.4)	234 (2.4)
Average ability	1992	1 (0.3)	234(5.6)	16(2.7)	222(3.6)	83 (2.7)	221 (1.3)
Low ability	1992	0 (0.4)	--	15(4.1)	184(3.8)	85 (4.0)	197 (2.2)
Mixed ability	1992	1 (0.6)	204(6.7)	18(3.2)	217(2.8)	80 (3.3)	217 (1.5)
Grade 8							
Nation	1992	1 (0.3)	254(10.6)	21 (1.9)<	267 (2.2)	78 (2.0)>	269 (1.2)
	1990	2 (1.1)	252 (8.1)	55 (4.2)	263 (2.4)	43 (4.4)	265 (2.2)
High ability	1992	0 (0.1)	--	15 (2.3)<	301 (4.4)>	85 (2.3)>	299 (1.9)
	1990	2 (0.9)	290 (9.0)	59 (6.1)	286 (3.0)	39 (6.1)	290 (3.3)
Average ability	1992	1 (0.6)	262(17.1)	23 (3.0)<	268 (2.5)>	76 (3.1)>	265 (1.5)
	1990	2 (1.1)	250(20.6)	58 (5.1)	259 (2.5)	40 (5.3)	262 (3.9)
Low ability	1992	0 (0.2)	--	19 (3.8)<	246 (3.9)	81 (3.8)>	244 (2.6)
	1990	4 (2.3)	232(10.9)	44 (7.3)	241 (4.7)	52 (7.7)	247 (5.1)
Mixed ability	1992	1 (0.8)	244(12.6)	24 (4.1)<	258 (2.8)	75 (4.1)>	262 (1.8)
	1990	4 (2.5)	251(28.8)	55 (8.2)	254 (4.3)	41 (8.5)	260 (4.0)

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TABLE 9.14 Students' Reports on the Frequency of Small Group Activities and Projects in Mathematics Class, Grades 4, 8, and 12

Work in small groups	Assessment Years	In mathematics class, how often do you do each of the following?					
		At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	1992	37 (1.0)	214 (1.0)>	19 (0.7)	229 (1.4)>	44 (1.1)	218 (0.8)>
	1990	32 (1.6)	208 (1.3)	21 (1.0)	224 (1.6)	47 (1.8)	212 (1.3)
Grade 8	1992	36 (1.1)>	266 (1.3)	26 (0.9)	272 (1.3)	38 (1.6)	267 (1.2)>
	1990	28 (2.3)	260 (2.6)	27 (1.3)	267 (1.8)	45 (2.8)	262 (1.4)
Grade 12 - All Students	1992	37 (0.9)>	302 (1.1)>	21 (0.8)	302 (1.3)	41 (1.0)	294 (1.4)
	1990	32 (1.5)	294 (1.5)	22 (1.0)	299 (1.9)	46 (1.7)	293 (1.6)
Grade 12 - Taking Math	1992	42 (1.1)>	308 (1.3)	22 (1.0)	308 (1.6)	36 (1.3)<	304 (1.7)
	1990	35 (1.7)	305 (1.9)	23 (1.3)	307 (2.3)	42 (1.8)	302 (2.0)

Write reports or do mathematics projects		At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 8	1992	5 (0.4)<	242 (3.0)	18 (0.8)	266 (1.7)	77 (0.9)>	270 (1.0)>
	1990	10 (0.8)	242 (3.4)	19 (1.3)	267 (2.4)	70 (1.5)	264 (1.2)
Grade 12 - All Students	1992	4 (0.3)<	275 (2.9)	14 (0.6)<	296 (1.9)	82 (0.7)>	300 (0.9)>
	1990	9 (0.7)	283 (3.2)	20 (1.1)	295 (1.9)	71 (1.2)	296 (1.2)
Grade 12 - Taking Math	1992	3 (0.3)<	277 (4.0)<	15 (0.7)<	301 (2.2)	82 (0.8)>	309 (0.9)
	1990	9 (1.0)	292 (4.2)	20 (1.4)	304 (2.6)	71 (1.5)	305 (1.3)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.15 | Teachers' Reports on the Frequency with Which Students Work in Small Groups in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	65 (2.9)	218 (1.4)	27 (2.3)	216 (1.8)	8 (1.4)	215 (3.0)
Northeast	68 (4.0)	225 (3.3)	22 (3.1)	208 (3.0)	11 (3.1)	219 (5.8)!
Southeast	67 (5.7)	207 (3.1)	26 (5.0)	209 (2.7)	7 (1.6)	208 (5.8)!
Central	57 (8.1)	224 (2.2)	30 (5.9)	225 (3.5)!	13 (4.2)	219 (4.3)!
West	69 (3.8)	219 (2.7)	28 (3.3)	216 (2.4)	3 (1.3)	*** (***)
STATES						
Alabama	60 (3.7)	206 (2.2)	29 (3.4)	211 (2.0)	11 (2.1)	204 (2.4)!
Arizona	62 (3.3)	216 (1.5)	27 (2.9)	213 (2.1)	11 (2.0)	209 (2.9)
Arkansas	38 (3.5)	207 (2.3)	40 (3.7)	209 (1.6)	21 (3.0)	212 (1.8)
California	72 (3.3)	208 (1.7)	23 (3.0)	207 (3.2)	4 (1.2)	194 (4.8)!
Colorado	73 (2.9)	221 (1.3)	22 (2.8)	216 (2.3)	5 (1.3)	216 (4.6)!
Connecticut	66 (3.7)	230 (1.5)	25 (3.1)	227 (3.1)	8 (1.7)	209 (3.6)!
Delaware	55 (1.1)	218 (1.0)	34 (1.1)	218 (1.2)	11 (1.1)	213 (2.8)
Dist. Columbia	85 (0.6)	192 (0.8)	12 (0.4)	186 (2.0)	4 (0.4)	186 (4.0)
Florida	70 (3.0)	212 (1.5)	23 (2.7)	216 (2.4)	7 (1.4)	207 (3.4)!
Georgia	68 (2.7)	215 (1.7)	21 (1.9)	212 (2.2)	11 (2.0)	212 (4.6)
Hawaii	54 (3.5)	215 (1.6)	35 (3.0)	213 (2.1)	11 (1.8)	203 (3.0)
Idaho	65 (2.8)	221 (1.3)	26 (3.0)	219 (2.1)	9 (1.7)	222 (2.4)
Indiana	50 (4.0)	221 (1.5)	37 (3.6)	218 (1.7)	13 (2.0)	218 (2.5)
Iowa	60 (3.4)	231 (1.3)	34 (3.4)	226 (1.6)	5 (1.6)	225 (4.6)!
Kentucky	74 (3.6)	215 (1.4)	21 (3.0)	208 (1.7)	5 (2.0)	207 (3.2)!
Louisiana	63 (4.2)	203 (1.9)	25 (3.4)	203 (3.4)	12 (2.7)	200 (3.3)!
Maine	71 (3.1)	231 (1.3)	26 (3.0)	230 (1.8)	3 (1.2)	*** (***)
Maryland	78 (2.7)	218 (1.7)	19 (2.9)	218 (4.0)	3 (1.2)	209 (7.7)!
Massachusetts	61 (3.8)	227 (1.7)	25 (2.7)	229 (2.0)	14 (2.7)	221 (3.4)!
Michigan	64 (3.7)	221 (2.3)	30 (3.2)	217 (3.1)	6 (1.8)	216 (6.2)!
Minnesota	61 (3.5)	227 (1.7)	33 (3.4)	228 (1.5)	6 (1.4)	225 (4.3)!
Mississippi	57 (4.0)	198 (2.0)	32 (3.5)	204 (2.2)	11 (2.1)	200 (3.2)!
Missouri	53 (3.8)	221 (2.1)	35 (3.5)	223 (2.2)	12 (2.1)	220 (2.7)
Nebraska	63 (3.7)	226 (1.8)	34 (3.9)	224 (1.4)	4 (1.2)	214 (5.0)!
New Hampshire	67 (3.2)	231 (1.3)	28 (3.2)	225 (1.9)	5 (1.3)	221 (3.4)!
New Jersey	63 (4.2)	228 (2.0)	26 (3.6)	231 (2.3)	11 (2.3)	213 (3.7)!
New Mexico	60 (3.6	212 (1.5)	29 (3.4)	216 (1.7)	11 (2.3)	204 (3.7)!
New York	58 (2.8)	218 (1.8)	27 (2.2)	217 (2.7)	14 (2.1)	213 (3.3)
North Carolina	63 (3.1)	213 (1.4)	31 (2.8)	212 (2.0)	6 (1.3)	207 (5.5)!
North Dakota	45 (4.0)	226 (1.3)	41 (3.9)	230 (1.2)	14 (3.0)	227 (2.3)!
Ohio	58 (3.4)	219 (1.7)	28 (3.0)	215 (2.0)	13 (2.8)	214 (3.4)!
Oklahoma	49 (3.9)	219 (1.3)	38 (3.4)	220 (1.6)	13 (2.2)	220 (2.3)
Pennsylvania	59 (3.5)	225 (1.9	30 (3.2)	221 (2.1)	12 (2.3)	219 (5.1)
Rhode Island	55 (3.5)	214 (2.1)	30 (3.0)	218 (2.7)	15 (2.1)	207 (4.6)
South Carolina	66 (3.3)	212 (1.3)	25 (2.9)	210 (2.1)	9 (1.9)	211 (4.3)!
Tennessee	56 (3.1)	208 (1.9)	34 (2.9)	212 (2.0)	10 (2.1)	212 (3.3)!
Texas	70 (3.4)	218 (1.7)	24 (3.0)	218 (3.2)	6 (1.8)	212 (5.2)!
Utah	65 (3.2)	224 (1.1)	28 (3.0)	223 (1.8)	7 (1.4)	215 (4.5)
Virginia	65 (3.2)	219 (1.8)	26 (3.1)	223 (2.6)	9 (2.1)	213 (4.4)!
West Virginia	57 (3.3)	214 (1.6)	30 (3.1)	213 (1.7)	13 (2.7)	210 (2.2)!
Wisconsin	65 (3.6)	229 (1.3)	31 (3.6)	226 (1.9)	3 (1.2)	230 (3.5)!
Wyoming	69 (3.3)	224 (1.3)	23 (2.7)	225 (1.6)	8 (2.2)	225 (3.1)!
TERRITORY						
Guam	64 (1.3)	192 (1.2)	21 (1.3)	188 (1.6)	15 (0.8)	192 (2.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 9.15 | Teachers' Reports on the Frequency with Which Students Work in Small Groups in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	51 (2.6)	269 (1.6)	32 (2.6)	266 (2.2)	17 (2.2)	267 (2.9)
Northeast	50 (4.7)	271 (4.7)	28 (4.7)	266 (5.1)	22 (3.7)	260 (5.7)
Southeast	47 (5.4)	262 (2.4)	38 (5.6)	263 (3.5)	15 (3.1)	260 (4.3)!
Central	51 (5.3)	273 (4.8)	32 (5.3)	274 (4.2)!	17 (4.3)	282 (5.2)!
West	56 (4.7)	269 (2.4)	29 (4.2)	264 (3.7)	15 (5.1)	266 (4.3)!
STATES						
Alabama	45 (3.9)	250 (3.3)	36 (3.5)	255 (2.3)	19 (3.2)	249 (3.1)
Arizona	56 (4.1)	264 (1.9) >	31 (3.9)	266 (2.7)	13 (2.1)	261 (5.1)
Arkansas	41 (3.7)	258 (2.2)	34 (3.4) <	256 (2.0)	25 (3.4)	252 (2.8) <
California	62 (3.5)	260 (2.3)	26 (2.6)	262 (3.0)	12 (2.7)	268 (4.1)!
Colorado	56 (3.1) <	273 (1.2) >	35 (2.9)	271 (2.4)	9 (1.8)	266 (3.3)!
Connecticut	47 (3.3)	276 (2.3)	36 (3.0)	274 (2.2)	17 (2.6)	267 (4.4)
Delaware	52 (0.7) »	258 (1.5)	31 (0.8) <	269 (1.6)	17 (0.8) <	262 (2.1)
Dist. Columbia	80 (0.7)	236 (1.0) »	14 (0.6)	227 (2.7) «	5 (0.5) »	236 (4.9)
Florida	53 (2.9)	260 (2.2)	34 (2.8)	259 (2.3)	13 (1.6)	257 (3.7)
Georgia	52 (3.1)	257 (2.0)	35 (3.0)	261 (2.2)	13 (1.8) »	254 (3.4)
Hawaii	46 (0.9) »	258 (1.1) »	36 (0.9)	256 (1.7)	19 (0.8) «	259 (1.7)
Idaho	61 (3.2)	275 (1.0)	29 (3.2)	277 (1.8) >	10 (1.7)	268 (1.8)
Indiana	38 (2.0)	272 (2.0)	43 (3.1)	271 (2.0)	19 (2.9)	261 (2.3)
Iowa	50 (4.6)	286 (1.5) »	33 (4.4)	279 (2.0)	17 (4.0)	282 (3.0)!
Kentucky	52 (3.5)	263 (1.9)	38 (3.3)	261 (1.6)	9 (1.9)	262 (4.6)
Louisiana	51 (4.1)	249 (2.7)	30 (3.9)	255 (2.5)	19 (3.1)	246 (2.2)
Maine	69 (3.7)	278 (1.4)	23 (3.2)	282 (2.0)	8 (2.3)	274 (3.8)!
Maryland	57 (3.7)	266 (2.3)	31 (3.1)	269 (3.0)	12 (2.2)	258 (4.4)
Massachusetts	44 (3.8)	273 (2.2)	30 (3.2)	274 (2.8)	26 (3.4)	268 (2.4)
Michigan	56 (3.7) >	265 (2.2)	33 (3.3)	268 (2.7)	11 (2.2)	270 (5.1)!
Minnesota	51 (4.5)	283 (1.5)	37 (3.8) <	280 (1.9) >	12 (2.7)	280 (2.8)!
Mississippi	40 (3.6)	244 (2.9)	45 (3.3)	247 (1.6)	14 (2.8)	243 (3.0)
Missouri	40 (3.7)	271 (1.7)	39 (3.7)	272 (1.7)	22 (3.3)	269 (2.4)
Nebraska	49 (4.6)	278 (1.9)	40 (4.6)	277 (1.9)	12 (2.9)	276 (3.6)!
New Hampshire	59 (3.4)	278 (1.3) >	33 (3.3)	278 (1.5)	8 (1.6)	274 (3.9)!
New Jersey	52 (4.5)	272 (2.4)	37 (4.7)	270 (3.7)	10 (2.1)	273 (5.8)
New Mexico	58 (3.3)	259 (1.0)	30 (2.6) <	259 (2.1)	12 (2.5)	262 (3.2)!
New York	37 (4.1)	264 (2.9)	36 (3.4)	269 (3.7)	27 (3.7)	263 (5.0)
North Carolina	50 (3.4)	258 (1.6) »	36 (3.2)	257 (2.3)	14 (2.3)	256 (4.1)
North Dakota	39 (4.0)	284 (1.9)	34 (4.3)	285 (1.7)	27 (3.6)	278 (1.4)
Ohio	39 (4.1)	271 (2.4)	48 (3.9)	268 (2.4)	13 (2.7)	270 (3.5)
Oklahoma	33 (3.6)	267 (2.2)	37 (2.9)	268 (1.9)	30 (3.4) >	267 (2.2)
Pennsylvania	41 (3.7)	269 (3.0)	38 (3.3)	274 (2.1)	21 (2.6)	267 (3.0)
Rhode Island	38 (1.0) »	265 (1.0) >	37 (1.2) <	263 (1.2)	25 (0.9) «	269 (2.1) >
South Carolina	47 (3.8)	261 (2.0)	39 (2.7)	260 (2.3)	14 (2.4)	261 (3.6)
Tennessee	38 (3.6)	257 (1.7)	39 (3.4)	260 (2.4)	22 (3.3)	256 (4.3)
Texas	55 (3.4) >	265 (2.1) >	33 (3.0) «	264 (2.6)	12 (2.1)	265 (3.5)
Utah	51 (2.9)	276 (1.2)	28 (2.3)	272 (1.8)	21 (1.9)	271 (2.0)
Virginia	53 (3.1)	269 (1.6)	31 (2.4) <	267 (2.2)	16 (2.4)	262 (3.2)
West Virginia	42 (3.7)	261 (1.5)	36 (3.5)	256 (2.0)	22 (3.0)	257 (2.1)
Wisconsin	53 (5.0)	260 (2.3)	35 (4.8)	276 (2.6)	11 (2.0)	276 (2.5)
Wyoming	58 (3.1) <	278 (1.1) >	29 (2.7)	270 (1.7)	12 (1.8) >	268 (2.8)
TERRITORIES						
Guam	38 (1.0) >	237 (2.4)	47 (0.9) >	238 (1.7)	15 (1.0) «	220 (2.5) <
Virgin Islands	29 (1.0) «	215 (2.1)	37 (1.0)	222 (1.5) «	34 (0.8) »	224 (1.8)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 9.15 | Teachers' Reports on the Frequency with Which Students Work in Small Groups in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	50 (4.4)	260 (2.2)	43 (4.1)	264 (2.5)	8 (2.0)	279 (5.5)!
Northeast	44 (6.4)	264 (6.1)!	39 (8.6)	268 (4.8)!	17 (6.5)	*** (***)
Southeast	44 (8.2)	256 (3.9)!	48 (8.3)	259 (3.9)!	7 (4.1)	*** (***)
Central	50 (7.8)	258 (4.7)	43 (8.6)	265 (4.5)!	7 (4.3)	*** (***)
West	57 (8.9)	262 (4.2)!	39 (7.6)	265 (5.1)	3 (2.2)	*** (***)
STATES						
Alabama	34 (4.2)	247 (2.3)	48 (4.1)	258 (1.9)	18 (3.5)	252 (2.4)
Arizona	61 (2.8)	257 (1.8)	31 (2.6)	263 (2.0)	8 (1.2)	264 (3.3)
Arkansas	33 (3.3)	252 (1.9)	48 (4.0)	259 (1.5)	18 (3.4)	261 (2.6)
California	59 (3.1)	259 (2.1)	32 (2.9)	255 (2.7)	9 (1.8)	249 (6.5)!
Colorado	69 (3.0)	267 (1.3)	25 (2.9)	266 (2.4)	6 (1.6)	277 (4.1)!
Connecticut	51 (3.7)	273 (1.6)	37 (3.1)	269 (2.1)	12 (2.7)	265 (3.0)!
Delaware	43 (1.2)	258 (1.8)	36 (1.5)	266 (1.4)	21 (0.8)	256 (1.7)
Dist. Columbia	82 (0.8)	230 (0.8)	17 (0.8)	248 (2.9)	2 (0.4)	*** (***)
Florida	48 (3.2)	254 (2.2)	34 (2.8)	261 (2.0)	18 (2.4)	257 (2.9)
Georgia	56 (3.4)	256 (1.8)	40 (3.2)	261 (2.1)	4 (1.2)	257 (5.5)!
Hawaii	34 (1.0)	243 (1.5)	38 (1.0)	255 (1.3)	28 (0.9)	259 (1.4)
Idaho	55 (2.2)	272 (1.1)	33 (2.3)	271 (1.3)	12 (0.8)	272 (2.5)
Indiana	39 (4.1)	271 (2.4)	46 (3.6)	266 (1.7)	15 (2.7)	262 (4.0)
Iowa	48 (4.5)	276 (1.9)	44 (3.8)	279 (1.4)	7 (1.9)	271 (7.5)!
Kentucky	42 (4.0)	257 (2.0)	44 (3.8)	257 (1.5)	13 (2.8)	258 (2.3)!
Louisiana	45 (3.7)	246 (2.2)	42 (3.7)	247 (2.1)	13 (2.3)	246 (3.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	56 (3.3)	260 (2.6)	36 (3.2)	263 (2.4)	8 (2.2)	264 (3.2)!
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	44 (3.3)	267 (2.2)	39 (3.5)	264 (2.4)	16 (3.0)	261 (3.4)
Minnesota	43 (3.0)	279 (1.8)	50 (3.1)	273 (1.5)	7 (1.9)	278 (4.1)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	46 (3.0)	279 (1.9)	48 (3.2)	274 (1.3)	6 (1.1)	266 (4.5)
New Hampshire	57 (1.5)	273 (1.2)	33 (1.4)	274 (2.1)	10 (0.7)	271 (2.3)
New Jersey	44 (3.8)	270 (2.2)	42 (3.6)	270 (2.5)	14 (2.5)	268 (4.1)
New Mexico	51 (1.4)	257 (1.1)	38 (1.4)	256 (1.2)	11 (0.7)	259 (2.0)
New York	31 (3.2)	259 (2.9)	40 (3.4)	263 (2.4)	30 (3.0)	260 (2.7)
North Carolina	45 (3.6)	248 (2.0)	44 (3.4)	255 (2.0)	11 (1.8)	247 (3.9)
North Dakota	38 (3.3)	281 (2.6)	43 (3.7)	284 (1.7)	18 (2.1)	278 (2.7)
Ohio	37 (3.4)	265 (2.3)	49 (3.6)	265 (1.9)	14 (2.8)	266 (3.4)
Oklahoma	44 (3.9)	263 (2.2)	38 (3.7)	266 (1.9)	18 (2.9)	259 (3.0)
Pennsylvania	33 (3.3)	265 (2.7)	46 (3.2)	268 (2.2)	21 (3.2)	268 (4.3)
Rhode Island	27 (0.8)	260 (1.4)	41 (0.9)	259 (1.2)	32 (0.8)	263 (1.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	39 (3.6)	255 (2.5)	50 (3.6)	257 (1.6)	10 (1.7)	252 (4.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	48 (2.8)	265 (2.3)	41 (2.4)	263 (2.2)	11 (1.9)	258 (3.5)
West Virginia	39 (3.5)	258 (2.0)	41 (3.5)	257 (1.3)	20 (2.5)	253 (3.2)
Wisconsin	43 (3.8)	273 (2.2)	49 (3.9)	278 (1.6)	7 (2.1)	272 (4.6)!
Wyoming	70 (1.4)	274 (0.8)	23 (1.3)	270 (1.6)	7 (0.5)	265 (2.4)
TERRITORIES						
Guam	33 (1.1)	232 (1.6)	43 (0.9)	235 (1.0)	24 (1.0)	229 (1.3)
Virgin Islands	53 (0.8)	213 (1.5)	36 (0.7)	233 (1.4)	12 (0.6)	220 (2.1)

TABLE 9.16 | Students' Reports on the Frequency with Which They Work in Small Groups in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	37 (1.1)	213 (1.1)	19 (0.8)	228 (1.6)	44 (1.2)	217 (0.9)
Northeast	40 (2.7)	217 (3.2)	19 (1.8)	235 (4.6)	42 (2.9)	223 (1.7)
Southeast	35 (1.7)	202 (2.4)	16 (1.4)	216 (3.4)	49 (2.3)	211 (1.6)
Central	34 (2.1)	219 (2.7)	21 (1.9)	231 (2.7)	45 (2.5)	220 (2.5)
West	40 (2.2)	213 (1.6)	18 (1.3)	228 (3.1)	42 (2.1)	217 (1.8)
STATES						
Alabama	35 (1.1)	202 (2.0)	16 (0.9)	218 (2.8)	50 (1.4)	207 (1.6)
Arizona	40 (1.2)	209 (1.5)	17 (0.8)	224 (1.9)	43 (1.2)	215 (1.2)
Arkansas	31 (1.1)	201 (1.3)	14 (0.8)	217 (2.3)	55 (1.2)	211 (1.0)
California	41 (1.6)	202 (2.1)	19 (1.1)	216 (2.8)	41 (1.6)	209 (1.8)
Colorado	41 (1.4)	216 (1.4)	21 (1.0)	229 (1.6)	38 (1.5)	219 (1.3)
Connecticut	40 (1.5)	222 (1.4)	21 (1.0)	238 (1.8)	40 (1.5)	223 (1.8)
Delaware	37 (1.7)	214 (1.5)	17 (0.8)	227 (2.0)	46 (1.6)	215 (1.3)
Dist. Columbia	54 (0.9)	188 (0.9)	13 (0.7)	203 (2.4)	33 (0.9)	192 (1.1)
Florida	36 (1.2)	208 (1.9)	14 (0.9)	220 (2.7)	50 (1.5)	214 (1.5)
Georgia	37 (1.5)	209 (2.0)	15 (0.7)	224 (2.5)	48 (1.8)	215 (1.2)
Hawaii	42 (1.3)	207 (1.9)	15 (0.9)	225 (2.4)	43 (1.4)	214 (1.5)
Idaho	39 (1.7)	216 (1.3)	22 (1.2)	228 (1.5)	40 (1.4)	220 (1.1)
Indiana	34 (1.2)	214 (1.6)	18 (0.9)	231 (1.4)	48 (1.3)	219 (1.2)
Iowa	35 (1.5)	228 (1.6)	26 (1.1)	238 (1.4)	39 (1.6)	225 (1.3)
Kentucky	41 (1.8)	212 (1.5)	19 (0.9)	225 (1.9)	40 (1.9)	211 (1.0)
Louisiana	41 (1.5)	199 (1.7)	15 (0.8)	216 (2.3)	44 (1.4)	204 (1.7)
Maine	38 (1.9)	229 (1.4)	32 (1.4)	237 (1.3)	30 (1.9)	228 (1.4)
Maryland	42 (1.5)	212 (1.8)	23 (1.1)	228 (1.8)	36 (1.6)	215 (1.7)
Massachusetts	39 (1.6)	221 (1.7)	19 (1.3)	234 (1.8)	43 (2.0)	226 (1.6)
Michigan	40 (1.5)	214 (2.1)	21 (1.2)	228 (2.4)	39 (1.5)	218 (1.8)
Minnesota	35 (1.6)	224 (1.4)	25 (1.3)	235 (1.4)	40 (1.7)	227 (1.3)
Mississippi	41 (1.5)	194 (1.5)	12 (0.8)	212 (1.8)	47 (1.5)	203 (1.3)
Missouri	32 (1.3)	215 (1.7)	20 (1.3)	232 (1.8)	48 (1.7)	221 (1.3)
Nebraska	31 (2.0)	220 (1.9)	26 (1.3)	231 (2.2)	43 (1.9)	224 (1.3)
New Hampshire	41 (1.5)	227 (1.9)	21 (1.0)	236 (1.5)	39 (1.9)	227 (1.5)
New Jersey	41 (2.2)	223 (2.5)	17 (1.1)	231 (1.7)	42 (2.1)	228 (1.7)
New Mexico	36 (1.3)	207 (2.1)	14 (0.7)	221 (2.6)	51 (1.3)	213 (1.4)
New York	38 (1.5)	210 (1.4)	15 (1.0)	224 (2.6)	47 (1.6)	221 (1.5)
North Carolina	36 (1.2)	205 (1.5)	19 (0.8)	224 (1.9)	45 (1.2)	211 (1.3)
North Dakota	30 (1.7)	223 (1.3)	24 (1.4)	234 (1.1)	47 (2.0)	227 (1.2)
Ohio	38 (1.4)	217 (1.9)	19 (1.2)	226 (1.8)	43 (1.9)	215 (1.3)
Oklahoma	31 (1.6)	211 (1.4)	17 (1.0)	228 (1.8)	52 (1.7)	221 (1.2)
Pennsylvania	38 (1.8)	220 (2.2)	20 (1.1)	232 (1.7)	43 (1.8)	222 (1.6)
Rhode Island	40 (1.4)	210 (2.2)	17 (0.9)	226 (2.3)	43 (1.3)	214 (1.6)
South Carolina	40 (1.6)	205 (1.6)	14 (0.8)	221 (1.8)	47 (1.7)	214 (1.3)
Tennessee	39 (1.6)	206 (1.7)	14 (0.9)	215 (2.2)	47 (1.6)	211 (1.6)
Texas	40 (1.9)	212 (1.6)	18 (1.0)	228 (2.0)	42 (2.0)	217 (1.4)
Utah	38 (1.2)	220 (1.3)	19 (0.9)	229 (1.6)	43 (1.3)	223 (1.3)
Virginia	33 (1.3)	215 (1.7)	19 (1.1)	228 (2.6)	48 (1.4)	220 (1.3)
West Virginia	34 (1.5)	211 (1.5)	18 (1.1)	220 (2.0)	48 (1.8)	214 (1.2)
Wisconsin	38 (1.5)	223 (1.8)	25 (1.0)	237 (1.3)	38 (1.8)	226 (1.2)
Wyoming	40 (1.5)	223 (1.3)	21 (1.0)	230 (1.3)	39 (1.5)	223 (1.1)
TERRITORY						
Guam	49 (1.4)	189 (1.2)	12 (0.8)	191 (3.4)	40 (1.2)	194 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 9.16 | Students' Reports on the Frequency with Which They Work in Small Groups in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	36 (1.3)	265 (1.5)	26 (1.0)	270 (1.4)	38 (1.8)	266 (1.3)
Northeast	34 (3.4)	268 (5.1)	27 (2.3)	270 (3.6)	39 (3.1)	267 (3.2)
Southeast	36 (2.3)	257 (2.2)	25 (1.5)	262 (2.1)	39 (2.3)	256 (2.3)
Central	35 (2.0)	271 (3.1)	28 (2.3)	276 (3.1)	37 (3.9)	272 (2.2)
West	38 (2.6)	263 (2.4)	24 (2.0)	271 (2.8)	38 (4.1)	268 (2.5)
STATES						
Alabama	32 (2.2)»	249 (2.8)	23 (1.3)	256 (2.4)	46 (2.4)«	251 (1.6)
Arizona	37 (1.6)	264 (1.7)>	26 (1.3)	267 (1.5)	37 (1.6)	263 (1.8)
Arkansas	32 (2.1)»	256 (1.8)>	23 (1.3)	260 (1.7)	45 (2.3)<	253 (1.7)
California	43 (2.2)>	257 (2.5)	23 (1.2)	266 (2.2)	34 (2.3)	260 (2.1)
Colorado	41 (2.0)	271 (1.6)	28 (1.2)	275 (1.5)	31 (1.7)	270 (1.8)
Connecticut	32 (1.8)	271 (1.9)	28 (1.1)	280 (1.5)	40 (2.1)	271 (2.0)
Delaware	39 (1.0)»	257 (1.7)	27 (0.8)	269 (1.5)	34 (0.9)«	263 (1.4)>
Dist. Columbia	53 (1.1)>	234 (1.1)»	17 (0.8)	242 (2.5)	30 (0.9)<	230 (2.0)
Florida	35 (1.9)>	255 (2.1)	23 (1.5)	266 (1.8)	42 (1.8)«	258 (2.1)
Georgia	35 (2.3)>	255 (1.8)	25 (1.3)«	267 (1.7)	40 (2.1)	257 (1.7)
Hawaii	40 (1.2)»	252 (1.4)»	23 (1.1)	262 (1.3)	37 (1.1)«	259 (1.4)
Idaho	44 (2.1)»	276 (1.0)>	25 (1.4)<	277 (1.3)	31 (1.6)«	270 (1.2)
Indiana	29 (1.6)»	271 (1.9)	29 (1.6)	274 (2.0)	42 (1.9)<	266 (1.7)
Iowa	32 (2.4)	286 (1.4)>	33 (2.2)	285 (1.3)	35 (2.9)	278 (1.8)
Kentucky	38 (2.6)»	260 (1.8)>	31 (1.4)	264 (1.6)	32 (2.3)«	260 (1.6)
Louisiana	35 (2.1)»	247 (2.3)	23 (1.3)	257 (2.3)	42 (2.5)«	247 (1.8)
Maine	40 (2.2)	279 (1.3)	31 (1.7)	281 (1.6)	28 (2.0)	274 (1.6)
Maryland	37 (2.1)	261 (1.9)	28 (1.3)	271 (2.2)	34 (2.0)<	262 (1.6)
Massachusetts	31 (1.7)	270 (2.1)	24 (1.5)	276 (2.0)	45 (1.9)	271 (1.5)
Michigan	40 (2.5)»	265 (2.1)	23 (1.5)	269 (2.1)	37 (2.3)«	267 (1.7)>
Minnesota	40 (2.8)»	281 (1.2)	27 (1.4)	282 (1.3)	34 (2.7)<	283 (1.7)»
Mississippi	27 (1.6)	239 (2.2)	24 (1.4)	254 (2.0)	49 (2.1)	245 (1.6)
Missouri	31 (1.9)	267 (2.5)	29 (1.4)	276 (1.2)	40 (2.0)	269 (1.5)
Nebraska	37 (2.7)>	276 (1.6)	29 (1.6)«	280 (1.6)	34 (2.7)	275 (1.5)
New Hampshire	39 (1.7)>	277 (1.5)	33 (1.2)	280 (1.5)	28 (1.8)	276 (1.5)
New Jersey	36 (2.4)»	268 (2.3)	29 (1.8)	279 (1.9)	35 (2.3)«	268 (2.7)
New Mexico	37 (1.6)»	257 (1.3)	22 (1.1)	262 (1.6)	41 (1.6)«	259 (1.2)>
New York	29 (1.5)»	257 (3.3)	23 (1.5)	277 (2.7)	48 (1.7)«	265 (2.3)
North Carolina	38 (2.0)»	257 (1.7)»	28 (1.6)	262 (1.6)	34 (2.3)«	256 (2.0)>
North Dakota	32 (2.1)»	283 (1.5)	26 (2.0)	285 (1.7)	42 (2.4)<	281 (1.4)
Ohio	31 (2.3)»	267 (2.2)	32 (2.1)	271 (1.5)	37 (2.3)«	265 (2.3)
Oklahoma	27 (1.4)>	268 (2.1)	23 (1.4)	272 (1.6)	51 (2.0)	265 (1.5)
Pennsylvania	32 (1.9)»	269 (2.4)	27 (1.3)	275 (1.9)	41 (2.1)«	270 (1.6)
Rhode Island	33 (1.1)»	262 (1.5)	25 (1.0)»	268 (1.5)	42 (1.0)«	267 (1.3)»
South Carolina	37 (1.8)	258 (1.6)	25 (1.3)	265 (1.8)	38 (2.1)	259 (1.6)
Tennessee	31 (1.7)	254 (1.8)	24 (1.6)	264 (1.9)	45 (2.2)	258 (2.1)
Texas	38 (2.4)»	261 (2.1)	27 (1.5)	269 (1.9)	34 (2.2)«	263 (1.7)>
Utah	36 (1.6)	271 (1.2)	18 (0.9)	277 (1.5)	46 (1.8)	274 (1.1)
Virginia	35 (1.6)	265 (1.8)	28 (1.4)	274 (1.9)	37 (1.9)	264 (1.8)
West Virginia	31 (2.0)»	258 (1.8)	23 (1.4)	264 (1.5)>	46 (2.3)<	256 (1.3)
Wisconsin	38 (2.4)»	277 (2.0)	31 (1.5)	281 (1.8)	31 (2.1)<	275 (2.0)
Wyoming	47 (2.1)	277 (1.0)	25 (1.3)«	274 (1.5)	28 (1.8)	270 (1.8)
TERRITORIES						
Guam	30 (0.9)»	229 (1.9)	18 (1.0)	242 (2.4)	52 (1.2)«	235 (1.5)
Virgin Islands	39 (1.1)>	220 (1.3)>	15 (0.8)	230 (1.9)	45 (1.1)<	221 (1.5)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 9.16 | Students' Reports on the Frequency with Which They Work in Small Groups in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	28 (2.5)	258 (2.7)	28 (1.4)	267 (1.9)	44 (2.9)	262 (1.5)
Northeast	27 (6.7)	261 (6.0)¹	22 (2.8)	272 (5.5)	51 (7.9)	274 (4.6)
Southeast	26 (3.9)	251 (5.3)	26 (2.2)	259 (3.6)	49 (4.8)	254 (2.1)
Central	23 (4.6)	266 (5.3)	32 (3.3)	265 (2.8)	45 (6.3)	264 (3.3)
West	35 (4.8)	257 (4.3)	29 (2.8)	271 (3.0)	36 (4.8)	257 (2.0)
STATES						
Alabama	15 (1.3)	247 (2.3)	23 (1.5)	256 (1.9)	63 (2.0)	253 (1.5)
Arizona	33 (1.9)	256 (2.3)	26 (1.1)	264 (1.8)	42 (1.8)	261 (1.7)
Arkansas	18 (1.2)	250 (2.0)	27 (1.5)	264 (1.6)	55 (2.0)	255 (1.1)
California	35 (2.0)	257 (2.1)	25 (1.2)	261 (2.0)	40 (2.0)	254 (1.6)
Colorado	38 (2.3)	266 (1.4)	30 (1.4)	271 (1.5)	32 (2.1)	265 (1.7)
Connecticut	30 (1.9)	271 (1.6)	27 (1.7)	277 (1.8)	43 (2.6)	266 (1.4)
Delaware	26 (1.1)	261 (2.3)	26 (0.9)	269 (1.6)	48 (1.4)	257 (1.3)
Dist. Columbia	47 (1.1)	228 (1.1)	18 (0.7)	244 (2.0)	34 (1.2)	231 (1.2)
Florida	26 (1.9)	251 (2.2)	23 (1.2)	261 (2.1)	51 (1.9)	256 (1.7)
Georgia	27 (1.7)	253 (1.9)	32 (1.3)	266 (1.6)	41 (2.2)	258 (1.7)
Hawaii	28 (0.9)	240 (1.7)	20 (0.8)	257 (1.8)	52 (1.0)	256 (1.3)
Idaho	29 (1.0)	271 (1.5)	29 (1.0)	274 (1.2)	41 (1.1)	270 (1.3)
Indiana	20 (2.0)	267 (2.5)	30 (1.7)	270 (1.4)	50 (2.6)	266 (1.4)
Iowa	28 (2.4)	278 (2.2)	36 (2.6)	281 (1.5)	37 (3.1)	275 (1.5)
Kentucky	19 (1.4)	252 (2.6)	25 (1.7)	264 (1.7)	56 (2.2)	256 (1.3)
Louisiana	19 (1.7)	246 (2.7)	21 (1.5)	254 (2.3)	60 (2.6)	244 (1.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	30 (2.1)	258 (2.2)	28 (1.4)	269 (2.3)	42 (2.3)	258 (1.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	23 (1.8)	266 (2.5)	25 (1.8)	271 (1.9)	52 (2.5)	261 (1.5)
Minnesota	26 (2.0)	277 (1.9)	28 (1.7)	280 (1.3)	45 (2.3)	273 (1.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	27 (1.8)	277 (1.8)	38 (1.5)	279 (1.5)	36 (1.8)	271 (1.2)
New Hampshire	32 (1.1)	274 (1.3)	35 (1.1)	276 (1.6)	33 (1.0)	272 (1.2)
New Jersey	24 (1.7)	263 (2.4)	25 (1.4)	281 (1.9)	51 (2.5)	268 (1.5)
New Mexico	24 (0.9)	256 (1.7)	24 (0.9)	263 (1.7)	52 (1.0)	254 (0.9)
New York	21 (1.5)	253 (3.1)	20 (1.4)	271 (2.2)	58 (2.1)	261 (1.5)
North Carolina	23 (1.4)	245 (2.1)	28 (1.3)	258 (1.8)	49 (2.1)	249 (1.4)
North Dakota	19 (1.6)	282 (2.0)	31 (1.2)	283 (1.7)	50 (2.0)	280 (1.7)
Ohio	20 (1.7)	262 (2.6)	28 (1.6)	268 (1.8)	52 (2.4)	263 (1.5)
Oklahoma	20 (2.0)	262 (2.8)	23 (2.0)	268 (2.1)	57 (2.6)	262 (1.5)
Pennsylvania	17 (1.4)	263 (3.0)	25 (1.5)	271 (2.1)	58 (2.2)	266 (1.9)
Rhode Island	14 (0.5)	256 (2.3)	19 (0.5)	266 (1.5)	67 (0.7)	260 (0.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	23 (2.0)	259 (2.5)	28 (1.5)	264 (1.9)	48 (2.4)	255 (1.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	29 (2.1)	264 (2.8)	29 (1.7)	271 (2.3)	42 (2.4)	260 (1.8)
West Virginia	19 (1.9)	254 (1.9)	25 (1.4)	258 (1.3)	56 (2.3)	256 (1.2)
Wisconsin	26 (2.2)	273 (2.3)	34 (1.9)	279 (1.5)	40 (2.5)	272 (1.9)
Wyoming	44 (1.3)	274 (1.0)	32 (0.8)	275 (1.0)	24 (1.0)	268 (1.5)
TERRITORIES						
Guam	24 (1.1)	225 (1.4)	16 (0.9)	247 (2.5)	60 (1.3)	231 (1.1)
Virgin Islands	34 (1.4)	214 (1.4)	16 (0.7)	225 (1.7)	51 (1.2)	220 (0.9)

¹ Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.17 | Teachers' Reports on the Frequency of Projects in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	1 (0.4)	*** (***)	18 (2.1)	219 (3.4)	80 (2.2)	216 (1.1)
Northeast	0 (0.2)	*** (***)	24 (4.9)	228 (5.7)!	76 (5.0)	218 (2.1)
Southeast	0 (0.3)	*** (***)	17 (3.8)	205 (3.3)!	83 (3.8)	208 (2.1)
Central	4 (1.3)	*** (***)	10 (3.3)	223 (8.0)!	87 (4.0)	223 (1.9)
West	1 (0.6)	*** (***)	24 (4.9)	220 (7.2)!	75 (5.0)	217 (2.5)
STATES						
Alabama	3 (1.1)	*** (***)	21 (3.2)	207 (2.3)	76 (3.4)	207 (1.8)
Arizona	4 (1.2)	209 (6.1)!	18 (2.1)	216 (3.0)	79 (2.2)	214 (1.2)
Arkansas	0 (0.2)	*** (***)	9 (1.4)	205 (3.5)	91 (1.4)	210 (1.1)
California	6 (1.4)	197 (6.0)!	27 (3.0)	209 (3.1)	67 (3.3)	208 (1.7)
Colorado	3 (1.0)	215 (5.0)!	27 (2.5)	221 (1.8)	70 (2.4)	220 (1.3)
Connecticut	3 (1.0)	231 (7.3)!	20 (2.0)	230 (2.4)	77 (2.2)	227 (1.6)
Delaware	0 (0.1)	*** (***)	19 (0.7)	227 (1.9)	80 (0.6)	215 (1.0)
Dist. Columbia	9 (0.4)	188 (2.5)	37 (1.0)	192 (1.4)	54 (1.0)	190 (1.3)
Florida	3 (0.8)	211 (6.7)!	26 (3.1)	210 (2.0)	71 (3.1)	213 (1.5)
Georgia	1 (0.6)	*** (***)	20 (2.5)	215 (3.5)	78 (2.4)	213 (1.5)
Hawaii	4 (1.0)	213 (4.6)!	20 (2.2)	219 (2.9)	76 (2.2)	212 (1.4)
Idaho	2 (0.9)	*** (***)	14 (2.0)	221 (2.5)	84 (1.9)	220 (1.1)
Indiana	1 (0.7)	*** (***)	14 (2.7)	219 (3.0)	85 (2.8)	220 (1.1)
Iowa	1 (0.4)	*** (***)	19 (2.9)	232 (2.0)	80 (3.0)	228 (1.2)
Kentucky	5 (1.7)	215 (4.7)!	26 (3.2)	215 (2.1)	68 (3.4)	213 (1.4)
Louisiana	4 (1.1)	197 (5.3)!	18 (2.7)	202 (4.7)	78 (2.7)	203 (1.6)
Maine	0 (0.4)	*** (***)	22 (3.0)	230 (2.0)	78 (3.0)	231 (1.3)
Maryland	6 (1.6)	216 (6.9)!	15 (2.4)	221 (3.4)	79 (3.0)	218 (1.6)
Massachusetts	2 (0.7)	*** (***)	18 (3.1)	230 (3.0)	81 (3.2)	226 (1.5)
Michigan	2 (0.9)	*** (***)	24 (3.3)	217 (2.6)	74 (3.4)	219 (2.0)
Minnesota	4 (2.0)	227 (5.4)!	15 (2.5)	228 (2.6)	81 (2.2)	227 (1.3)
Mississippi	2 (0.7)	*** (***)	20 (3.0)	198 (2.5)	78 (2.9)	201 (1.4)
Missouri	2 (0.9)	*** (***)	19 (3.1)	222 (3.1)	79 (3.4)	222 (1.5)
Nebraska	1 (0.7)	*** (***)	19 (2.4)	229 (2.3)	80 (2.6)	223 (1.4)
New Hampshire	3 (1.0)	228 (5.3)!	21 (2.7)	233 (2.8)	76 (3.0)	228 (1.3)
New Jersey	2 (1.2)	*** (***)	26 (3.3)	230 (3.0)	72 (3.5)	226 (1.7)
New Mexico	3 (1.0)	*** (***)	22 (3.3)	215 (2.1)	75 (3.4)	212 (1.4)
New York	3 (1.0)	*** (***)	22 (2.5)	221 (2.2)	76 (2.7)	216 (1.5)
North Carolina	3 (0.9)	207 (3.8)!	18 (2.1)	212 (2.6)	79 (2.2)	212 (1.1)
North Dakota	2 (1.1)	*** (***)	15 (3.1)	227 (2.5)!	82 (3.3)	228 (0.9)
Ohio	1 (0.7)	*** (***)	17 (2.8)	219 (2.7)	81 (2.8)	217 (1.5)
Oklahoma	2 (0.6)	*** (***)	16 (2.7)	220 (2.4)	83 (2.8)	219 (1.1)
Pennsylvania	2 (0.9)	228(16.2)!	17 (2.4)	226 (2.9)	81 (2.5)	222 (1.7)
Rhode Island	1 (0.7)	*** (***)	17 (2.5)	219 (3.0)	82 (2.6)	213 (1.8)
South Carolina	1 (0.5)	*** (***)	15 (2.3)	212 (3.2)	84 (2.2)	211 (1.3)
Tennessee	3 (1.1)	195 (6.7)!	16 (2.4)	207 (3.8)	81 (2.4)	211 (1.4)
Texas	3 (1.1)	223 (7.7)!	19 (2.3)	215 (3.0)	77 (2.4)	217 (1.6)
Utah	3 (1.0)	236 (6.5)!	19 (2.5)	229 (2.3)	78 (2.7)	221 (1.1)
Virginia	2 (0.7)	*** (***)	15 (2.0)	218 (4.4)	84 (2.1)	220 (1.4)
West Virginia	1 (0.8)	*** (***)	17 (2.9)	215 (2.4)	82 (3.1)	213 (1.2)
Wisconsin	3 (1.1)	233 (8.5)!	27 (3.4)	230 (1.9)	70 (3.5)	227 (1.3)
Wyoming	3 (1.0)	230 (4.2)!	20 (2.7)	226 (1.6)	77 (3.0)	224 (1.1)
TERRITORY						
Guam	2 (0.2)	*** (***)	28 (1.1)	192 (1.5)	70 (1.1)	191 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.17 | Teachers' Reports on the Frequency of Projects in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	1 (0.3)	*** (***)	21 (2.1)	266 (2.5)	79 (2.1)	268 (1.2)
Northeast	1 (0.8)	*** (***)	32 (4.7)	268 (4.8)	67 (4.9)	268 (3.5)
Southeast	0 (0.0)	*** (***)	20 (5.1)	271 (5.0)!	80 (5.1)	260 (1.3)
Central	1 (0.7)	*** (***)	9 (3.3)	270 (5.9)!	90 (3.4)	275 (2.9)
West	1 (0.4)	*** (***)	22 (3.5)	260 (4.1)	77 (3.6)	270 (2.5)
STATES						
Alabama	1 (0.9)	*** (***)	22 (3.3)«	252 (3.3)	76 (3.4)»	252 (2.1)
Arizona	1 (0.3)<	*** (***)	20 (2.8)«	265 (2.7)>	80 (2.8)»	264 (1.8)
Arkansas	1 (0.9)	*** (***)	16 (2.6)«	255 (2.8)	83 (2.9)»	256 (1.4)
California	3 (1.0)	255 (3.9)!	31 (3.0)«	264 (3.4)	66 (3.0)»	260 (1.9)
Colorado	3 (1.0)	*** (***)	28 (3.0)«	272 (2.0)	70 (3.3)»	271 (1.4)>
Connecticut	2 (0.8)	*** (***)	25 (3.1)«	279 (3.0)	73 (3.1)»	271 (1.5)>
Delaware	1 (0.3)	*** (***)	29 (1.0)«	257 (2.0)	70 (1.0)»	264 (1.1)>
Dist. Columbia	4 (0.4)	*** (***)	45 (1.4)«	236 (1.7)	50 (1.4)»	236 (1.5)»
Florida	1 (0.4)	*** (***)	17 (2.5)«	262 (4.2)	82 (2.5)»	259 (1.6)
Georgia	1 (0.6)	*** (***)	21 (3.0)«	254 (3.1)	78 (3.1)»	259 (1.6)
Hawaii	2 (0.2)<	*** (***)	16 (0.7)«	263 (2.2)»	83 (0.7)»	256 (0.9)>
Idaho	0 (0.2)«	*** (***)	15 (2.0)«	278 (2.1)	85 (2.0)»	274 (0.7)>
Indiana	1 (0.5)	*** (***)	18 (2.5)«	271 (3.1)	81 (2.5)»	269 (1.5)
Iowa	1 (0.9)	*** (***)	16 (3.5)«	281 (2.6)!	83 (3.6)»	283 (1.1)>
Kentucky	3 (1.5)	262 (8.1)!	26 (3.3)«	262 (2.6)	70 (3.6)»	262 (1.4)>
Louisiana	1 (0.5)	*** (***)	20 (3.0)«	251 (3.8)	79 (3.1)»	249 (1.7)
Maine	1 (0.7)	*** (***)	22 (3.4)	280 (2.5)	78 (3.5)	278 (1.2)
Maryland	1 (0.6)	*** (***)	23 (3.2)«	267 (4.4)	76 (3.3)»	265 (1.8)
Massachusetts	0 (0.0)	*** (***)	19 (3.0)	280 (2.2)	81 (3.0)	270 (1.3)
Michigan	3 (1.5)	*** (***)	20 (3.7)«	260 (4.2)	77 (3.8)»	269 (1.8)
Minnesota	1 (0.6)	*** (***)	20 (3.3)«	278 (2.4)	79 (3.4)»	282 (1.2)»
Mississippi	3 (1.1)	*** (***)	23 (3.0)	245 (3.1)	75 (3.2)	245 (1.5)
Missouri	0 (0.1)	*** (***)	14 (2.2)	270 (2.8)	86 (2.2)	271 (1.1)
Nebraska	1 (0.5)	*** (***)	20 (3.0)«	277 (2.3)	79 (3.1)»	278 (1.3)
New Hampshire	3 (1.2)	281 (5.1)!>	37 (2.6)«	279 (1.5)>	60 (2.6)»	277 (1.4)
New Jersey	0 (0.4)	*** (***)	19 (3.0)«	275 (3.7)	81 (3.1)»	270 (1.9)
New Mexico	0 (0.3)«	*** (***)	22 (3.0)«	259 (2.3)	78 (2.9)»	259 (1.2)
New York	2 (1.2)	*** (***)	19 (2.6)«	266 (4.2)	80 (2.9)»	266 (2.4)
North Carolina	0 (0.3)	*** (***)	24 (3.2)«	260 (2.5)>	76 (3.2)»	257 (1.6)>
North Dakota	0 (0.0)	*** (***)	19 (3.5)«	284 (3.9)!	81 (3.5)»	283 (1.1)
Ohio	0 (0.1)	*** (***)	12 (2.3)«	261 (5.1)	88 (2.3)»	270 (1.7)
Oklahoma	0 (0.3)	*** (***)	16 (2.7)«	274 (3.1)	84 (2.7)»	266 (1.3)
Pennsylvania	1 (0.6)	*** (***)	16 (2.8)«	266 (3.7)	83 (2.8)»	271 (1.5)
Rhode Island	0 (0.1)	*** (***)	22 (0.8)«	264 (1.7)	77 (0.8)»	266 (0.9)»
South Carolina	1 (0.6)	*** (***)	26 (3.2)	264 (3.0)	72 (3.3)	259 (1.4)
Tennessee	1 (1.0)	*** (***)	21 (3.2)	259 (3.7)	78 (3.4)	258 (1.4)
Texas	1 (0.6)	*** (***)	24 (3.3)«	267 (3.8)>	74 (3.5)»	263 (1.5)>
Utah	1 (0.8)	*** (***)	16 (2.2)	273 (2.3)	82 (2.3)	274 (1.0)
Virginia	0 (0.3)	*** (***)	20 (2.3)«	266 (3.1)	80 (2.4)»	267 (1.3)>
West Virginia	0 (0.0)	*** (***)	14 (2.4)«	261 (3.3)	86 (2.4)»	258 (1.1)
Wisconsin	0 (0.2)	*** (***)	29 (4.7)<	284 (2.9)!>	71 (4.7)»	276 (1.3)
Wyoming	0 (0.2)«	*** (***)	13 (1.7)«	277 (3.2)	87 (1.6)»	274 (0.9)>
TERRITORIES						
Guam	2 (0.3)	*** (***)	31 (1.5)	245 (1.7)>	67 (1.5)	231 (1.3)
Virgin Islands	0 (0.0)	*** (***)	19 (0.6)«	220 (1.6)	81 (0.6)»	221 (1.4)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 9.17 | Teachers' Reports on the Frequency of Projects in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	3 (1.2)	*** (***)	55 (4.5)	262 (2.5)	43 (4.7)	265 (2.4)
Northeast	0 (0.0)	*** (***)	50 (8.9)	269 (5.9)!	50 (8.9)	271 (4.5)
Southeast	4 (3.5)	*** (***)	63 (8.0)	256 (4.4)	33 (7.7)	261 (4.8)!
Central	1 (0.9)	*** (***)	58 (9.3)	265 (4.0)	41 (8.9)	260 (6.4)!
West	4 (2.2)	*** (***)	48 (8.5)	262 (5.5)!	48(10.0)	266 (3.1)!
STATES						
Alabama	2 (1.1)	*** (***)	58 (4.3)	253 (1.8)	40 (4.3)	254 (1.9)
Arizona	4 (1.2)	257 (3.9)!	40 (3.4)	256 (2.3)	56 (3.6)	263 (2.0)
Arkansas	0 (0.1)	*** (***)	47 (3.6)	256 (1.5)	53 (3.6)	258 (1.1)
California	4 (1.2)	265(10.3)!	51 (3.3)	257 (2.0)	45 (3.4)	255 (2.4)
Colorado	4 (1.5)	264 (8.6)!	53 (3.1)	268 (1.4)	43 (3.2)	266 (1.4)
Connecticut	3 (1.2)	262 (9.7)!	56 (3.3)	275 (1.3)	41 (3.5)	266 (1.8)
Delaware	1 (0.3)	*** (***)	39 (0.9)	263 (1.9)	60 (0.9)	260 (1.2)
Dist. Columbia	6 (0.6)	226 (2.4)	76 (0.9)	235 (1.0)	18 (0.6)	225 (2.0)
Florida	3 (0.9)	*** (***)	49 (3.0)	259 (1.8)	48 (3.2)	255 (2.2)
Georgia	3 (1.0)	258 (7.2)!	59 (3.7)	258 (1.7)	39 (3.8)	258 (2.6)
Hawaii	3 (0.2)	248 (5.5)	44 (0.9)	252 (1.2)	53 (0.9)	252 (1.2)
Idaho	3 (0.5)	*** (***)	44 (2.1)	273 (1.2)	54 (2.1)	270 (1.0)
Indiana	1 (0.5)	*** (***)	45 (4.3)	267 (2.0)	54 (4.4)	269 (1.8)
Iowa	2 (1.4)	*** (***)	45 (4.2)	276 (1.8)	53 (4.3)	278 (1.7)
Kentucky	3 (1.4)	*** (***)	58 (3.3)	258 (1.3)	39 (3.5)	256 (1.7)
Louisiana	1 (0.6)	*** (***)	41 (3.9)	247 (2.1)	58 (3.9)	247 (1.6)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	2 (0.8)	*** (***)	55 (3.4)	259 (2.1)	43 (3.4)	265 (2.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	2 (1.0)	*** (***)	40 (3.2)	263 (2.4)	59 (3.3)	266 (1.4)
Minnesota	1 (0.6)	*** (***)	41 (4.1)	279 (1.4)	58 (4.1)	274 (1.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	3 (1.4)	*** (***)	56 (3.1)	274 (1.6)	41 (3.0)	279 (1.5)
New Hampshire	6 (0.4)	263 (3.1)	68 (1.2)	273 (1.2)	27 (1.1)	274 (1.8)
New Jersey	1 (0.4)	*** (***)	60 (3.5)	271 (1.9)	39 (3.6)	268 (2.3)
New Mexico	3 (0.3)	261 (4.9)	44 (1.4)	258 (1.1)	53 (1.4)	256 (1.0)
New York	1 (0.4)	*** (***)	49 (3.8)	261 (2.1)	50 (3.7)	260 (2.1)
North Carolina	2 (0.8)	*** (***)	64 (3.1)	252 (1.5)	35 (3.2)	250 (2.2)
North Dakota	1 (0.4)	*** (***)	45 (3.0)	283 (2.0)	53 (3.0)	280 (1.4)
Ohio	2 (0.9)	*** (***)	53 (3.9)	265 (1.9)	46 (3.9)	266 (1.8)
Oklahoma	3 (1.2)	270 (3.3)!	44 (4.0)	266 (2.0)	53 (4.1)	262 (1.9)
Pennsylvania	1 (0.9)	*** (***)	38 (3.6)	262 (2.5)	61 (3.6)	271 (2.0)
Rhode Island	1 (0.5)	*** (***)	36 (1.0)	259 (1.3)	63 (1.0)	261 (0.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	3 (1.2)	*** (***)	59 (3.7)	256 (2.0)	38 (3.6)	256 (2.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	3 (1.0)	*** (***)	59 (3.3)	267 (2.1)	39 (3.3)	260 (2.2)
West Virginia	2 (1.1)	*** (***)	43 (3.9)	259 (1.5)	55 (4.0)	255 (1.7)
Wisconsin	2 (1.1)	*** (***)	51 (4.1)	276 (2.0)	47 (4.0)	275 (1.8)
Wyoming	2 (0.3)	*** (***)	37 (1.5)	275 (1.2)	61 (1.6)	271 (0.9)
TERRITORIES						
Guam	0 (0.0)	*** (***)	33 (0.8)	238 (1.4)	67 (0.8)	229 (1.2)
Virgin Islands	0 (0.0)	*** (***)	45 (0.8)	216 (1.7)	55 (0.8)	224 (1.1)

TABLE 9.18 | Students' Reports on the Frequency of Projects in Mathematics Class

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	6 (0.4)	240 (3.0)	18 (0.8)	265 (1.8)	77 (0.9)	269 (1.0)
Northeast	4 (0.6)	*** (***)	19 (1.3)	260 (3.1)	78 (1.7)	272 (3.1)
Southeast	7 (0.6)	230 (5.0)	18 (1.9)	261 (2.5)	76 (1.9)	260 (1.4)
Central	5 (1.1)	258 (5.9)!	16 (1.5)	273 (3.6)	79 (1.7)	274 (2.3)
West	6 (0.6)	241 (4.1)	19 (1.7)	265 (4.3)	75 (1.9)	270 (2.0)
STATES						
Alabama	5 (0.7) <	229 (4.2)	19 (1.5)	249 (2.7)	76 (2.0)	254 (1.7)
Arizona	5 (0.5) «	239 (3.8)	18 (1.2)	265 (2.0)	77 (1.4)	266 (1.3)
Arkansas	5 (0.4)	234 (3.4)	16 (1.1)	254 (2.1)	79 (1.2)	257 (1.3)
California	9 (0.8)	242 (4.0)	26 (1.8)	256 (2.8)	64 (2.1)	265 (1.7) >
Colorado	6 (0.6) «	258 (3.9)	21 (1.2)	272 (1.8)	73 (1.4) >	273 (1.2) >
Connecticut	3 (0.4) <	244 (6.2)	21 (1.4)	272 (2.1)	76 (1.4)	275 (1.1) >
Delaware	4 (0.4)	234 (5.3)	20 (0.9)	257 (2.0)	76 (0.9)	265 (1.0)
Dist. Columbia	10 (0.8) «	221 (3.0)	24 (0.9)	236 (1.9)	67 (1.0) »	235 (1.2)
Florida	4 (0.5) «	230 (4.4)	15 (1.0) <	255 (2.7)	81 (1.3) »	262 (1.4)
Georgia	5 (0.6) «	245 (3.8)	18 (1.0)	255 (2.2) <	77 (1.2) »	260 (1.3)
Hawaii	9 (0.6) «	231 (3.4)	20 (0.9)	254 (2.1)	71 (1.0) »	261 (0.9) »
Idaho	5 (0.4) «	261 (3.5)	16 (1.0) <	274 (1.8)	80 (1.1) »	275 (0.8)
Indiana	3 (0.4) «	247 (3.4)	15 (1.1)	268 (2.4)	81 (1.2)	271 (1.1)
Iowa	4 (0.5) «	269 (3.3)	15 (1.1)	284 (1.8)	80 (1.3) »	283 (1.1) »
Kentucky	7 (0.8)	246 (3.4)	23 (1.3)	260 (1.5)	70 (1.7)	264 (1.2) >
Louisiana	4 (0.5) «	223 (4.3)	17 (1.6)	250 (2.5)	78 (1.7)	250 (1.8)
Maine	4 (0.7)	262 (4.5)	17 (1.3)	279 (1.7)	79 (1.4)	279 (1.1)
Maryland	4 (0.5) <	227 (4.0)	18 (1.2)	261 (2.4)	78 (1.3) >	267 (1.4)
Massachusetts	3 (0.3)	247 (5.0)	15 (1.4)	272 (1.8)	82 (1.5)	273 (1.1)
Michigan	5 (0.5) <	242 (3.3)	18 (1.4)	264 (2.4)	77 (1.6)	269 (1.5)
Minnesota	5 (0.6) <	264 (3.3)	16 (0.9)	280 (1.9)	79 (1.2) >	283 (1.1) »
Mississippi	5 (0.5)	228 (5.1)	17 (1.6)	249 (3.0)	78 (1.9)	246 (1.1)
Missouri	5 (0.6)	251 (3.4)	17 (1.1)	267 (2.1)	77 (1.3)	273 (1.2)
Nebraska	5 (0.5) «	259 (3.6)	18 (1.2)	276 (1.9)	77 (1.3) »	278 (1.3)
New Hampshire	3 (0.4) «	255 (4.5)	25 (1.7) <	277 (1.6)	73 (1.8) »	279 (1.0) >
New Jersey	3 (0.5) «	245 (4.6)	17 (1.5)	265 (2.4) <	79 (1.8) >	274 (1.9)
New Mexico	6 (0.5) <	245 (3.4)	17 (1.2)	259 (1.8)	77 (1.3)	260 (1.0)
New York	4 (0.7) <	233 (8.6)	20 (1.8)	260 (2.9)	76 (1.9)	269 (2.0) >
North Carolina	5 (0.6) «	232 (3.5)	21 (1.4)	258 (2.0)	73 (1.5)	259 (1.3) »
North Dakota	3 (0.4) «	271 (3.6)	13 (0.9) «	281 (1.5)	84 (1.1) »	283 (1.2)
Ohio	5 (0.7)	238 (3.7) <	15 (1.0)	261 (2.2)	81 (1.3)	271 (1.6) >
Oklahoma	3 (0.4) <	248 (5.5)	13 (1.0)	263 (2.0)	84 (1.2)	269 (1.2) >
Pennsylvania	4 (0.4) <	242 (4.6)	15 (1.1)	268 (2.9)	81 (1.3)	273 (1.4)
Rhode Island	3 (0.3) «	*** (***)	18 (0.9) »	265 (2.0)	79 (1.0)	266 (0.9) »
South Carolina	5 (0.4)	241 (4.2)	20 (1.3)	258 (1.9)	75 (1.5)	262 (1.1)
Tennessee	4 (0.4)	239 (4.0)	18 (1.3)	260 (2.2)	78 (1.3)	259 (1.4)
Texas	5 (0.5) «	239 (3.2)	24 (2.0)	266 (2.8)	71 (2.0)	265 (1.4) >
Utah	5 (0.4)	255 (3.2)	17 (0.8)	272 (1.6)	78 (0.9)	276 (0.9)
Virginia	4 (0.5) «	245 (5.0)	20 (1.5)	267 (2.8)	77 (1.8)	268 (1.2) >
West Virginia	3 (0.3) «	235 (4.2)	10 (0.8) <	260 (2.1)	87 (1.0) »	259 (1.0)
Wisconsin	6 (0.5)	258 (4.1)	20 (2.5)	278 (2.2)	75 (2.7)	279 (1.5)
Wyoming	6 (0.5)	258 (3.1)	15 (0.8) «	274 (1.8)	79 (1.0) »	276 (0.9) >
TERRITORIES						
Guam	9 (0.7) <	209 (3.9)	15 (0.9)	238 (2.7)	76 (1.0)	237 (1.1) »
Virgin Islands	12 (0.8) <	211 (2.0)	17 (1.0) »	225 (2.2)	71 (1.1)	223 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.18 | Students' Reports on the Frequency of Projects in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	10 (0.9)	242 (3.6)	19 (1.3)	267 (2.6)	71 (1.6)	264 (1.3)
Northeast	7 (0.9)	*** (***)	13 (1.3)	275 (6.7)	81 (1.9)	270 (3.3)
Southeast	11 (2.2)	228 (6.4)!	20 (2.6)	262 (4.9)	69 (4.1)	257 (2.8)
Central	8 (1.1)	243 (4.5)	18 (1.8)	269 (6.2)	74 (1.8)	266 (2.1)
West	13 (1.8)	245 (5.8)	24 (3.1)	266 (3.8)	63 (3.4)	262 (2.6)
STATES						
Alabama	8 (0.8)	229 (2.9)	21 (2.1)	255 (2.2)	71 (2.5)	255 (1.1)
Arizona	9 (0.8)	240 (3.0)	17 (1.1)	262 (2.3)	74 (1.3)	262 (1.3)
Arkansas	6 (0.6)	232 (3.3)	18 (1.1)	261 (2.1)	76 (1.3)	257 (0.9)
California	11 (0.9)	236 (3.6)	22 (1.3)	264 (2.1)	66 (1.7)	258 (1.2)
Colorado	10 (0.9)	255 (2.6)	22 (1.2)	269 (1.8)	68 (1.5)	269 (1.0)
Connecticut	6 (0.6)	250 (4.7)	22 (1.4)	274 (1.9)	72 (1.5)	271 (1.1)
Delaware	6 (0.6)	243 (4.2)	18 (0.8)	263 (2.4)	77 (0.9)	262 (1.0)
Dist. Columbia	17 (0.7)	218 (1.7)	24 (0.9)	240 (1.7)	59 (1.0)	232 (1.1)
Florida	8 (0.6)	227 (3.4)	19 (1.3)	261 (2.1)	73 (1.5)	257 (1.3)
Georgia	9 (0.7)	235 (2.8)	21 (1.1)	263 (2.0)	69 (1.2)	261 (1.3)
Hawaii	15 (0.7)	231 (1.9)	20 (0.8)	256 (1.6)	65 (0.9)	254 (1.0)
Idaho	8 (0.6)	254 (2.6)	19 (1.1)	274 (1.6)	73 (1.1)	273 (0.9)
Indiana	7 (0.6)	251 (3.8)	16 (1.2)	270 (2.7)	77 (1.4)	268 (1.1)
Iowa	7 (0.7)	264 (2.6)	19 (1.2)	283 (2.2)	73 (1.4)	278 (1.0)
Kentucky	8 (0.6)	244 (2.5)	20 (1.5)	262 (2.0)	72 (1.5)	257 (1.3)
Louisiana	8 (0.6)	228 (3.0)	16 (1.1)	252 (2.4)	76 (1.3)	248 (1.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	7 (0.6)	235 (3.0)	22 (1.6)	262 (2.1)	71 (1.8)	263 (1.7)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	7 (0.6)	242 (2.8)	16 (1.1)	266 (2.4)	77 (1.2)	266 (1.1)
Minnesota	8 (0.6)	257 (3.4)	19 (1.2)	280 (1.4)	73 (1.4)	276 (1.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	9 (0.7)	261 (4.2)	21 (1.2)	278 (1.8)	70 (1.4)	277 (0.9)
New Hampshire	6 (0.5)	26[illegible] (3.0)	29 (1.0)	277 (1.5)	65 (1.0)	273 (1.2)
New Jersey	7 (0.6)	242 (3.1)	21 (1.5)	273 (2.1)	72 (1.5)	272 (1.2)
New Mexico	8 (0.7)	243 (3.2)	18 (0.9)	259 (1.5)	74 (1.0)	258 (0.9)
New York	7 (0.7)	227 (5.5)	21 (1.8)	265 (2.8)	72 (2.1)	263 (1.2)
North Carolina	9 (0.5)	233 (2.3)	24 (1.7)	259 (2.3)	68 (1.9)	250 (1.2)
North Dakota	7 (0.7)	272 (3.9)	20 (1.5)	279 (2.0)	74 (1.5)	283 (1.3)
Ohio	6 (0.5)	252 (3.3)	18 (1.2)	264 (2.2)	76 (1.4)	265 (1.1)
Oklahoma	5 (0.5)	248 (3.5)	15 (1.1)	267 (2.3)	80 (1.3)	264 (1.4)
Pennsylvania	6 (0.6)	243 (3.0)	16 (1.0)	271 (3.1)	78 (1.3)	268 (1.6)
Rhode Island	5 (0.4)	241 (3.6)	14 (0.6)	264 (2.0)	81 (0.7)	261 (0.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	9 (0.9)	238 (2.9)	22 (1.5)	265 (2.1)	69 (1.9)	259 (1.3)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	7 (0.5)	246 (3.8)	22 (2.1)	270 (3.7)	71 (2.2)	264 (1.4)
West Virginia	7 (0.7)	241 (3.1)	13 (0.9)	256 (1.9)	80 (1.2)	257 (1.0)
Wisconsin	8 (0.8)	255 (3.0)	24 (1.8)	278 (1.7)	68 (2.3)	276 (1.3)
Wyoming	7 (0.5)	260 (2.2)	19 (0.8)	275 (1.7)	74 (0.9)	273 (0.7)
TERRITORIES						
Guam	12 (0.6)	218 (2.7)	12 (0.9)	246 (3.2)	76 (1.1)	232 (1.0)
Virgin Islands	15 (0.9)	209 (2.0)	11 (0.9)	225 (2.5)	74 (1.3)	220 (1.1)

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TABLE 9.19 Teachers' Reports on the Frequency with Which Students Do Work with Objects Like Rulers, Counting Blocks or Geometric Shapes in Mathematics Class at Grade 4, and with Measuring Instruments or Geometric Solids at Grade 8

Working with rulers, counting blocks, or geometric shapes	Assessment Years	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	**1992**	44 (2.6)	218 (1.7)	46 (2.6)	218 (1.4)	10 (1.6)>	220 (2.3)
	1990	51 (3.7)	215 (1.6)	47 (3.7)	215 (1.7)	2 (0.7)	202 (8.0)
High ability	**1992**	38 (7.7)	246 (5.9)	41 (8.6)	233 (2.8)	21 (6.6)	233 (6.3)
	1990	50 (9.2)	237 (5.7)	50 (9.2)	235 (7.3)	0 (0.0)	--
Average ability	**1992**	40 (4.2)	223 (2.4)	47 (3.8)	221 (1.7)	12 (2.4)>	220 (3.2)
	1990	53 (4.9)	215 (2.6)	42 (4.5)	215 (2.7)	4 (1.8)	208(11.2)
Low ability	**1992**	45 (4.8)	193 (3.3)	50 (4.8)	199 (3.2)	5 (1.6)	193(11.1)
	1990	59 (8.0)	203 (4.0)	37 (7.8)	205 (7.4)	4 (1.8)	188(10.8)
Mixed ability	**1992**	48 (3.3)	217 (1.6)	45 (3.8)	217 (2.1)	73 (2.3)>	217 (2.9)
	1990	44 (5.8)	211 (2.4)	56 (5.8)	214 (2.5)	0 (0.4)	--

Work with Measuring Instruments or Geometric Solids		At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 8							
Nation	**1992**	8 (1.1)	272 (3.2)	50 (3.0)	266 (1.4)	42 (3.0)	272 (2.0)
High ability	**1992**	9 (1.9)	306 (5.7)	36 (4.5)	299 (2.7)	56 (4.9)	300 (2.1)
Average ability	**1992**	9 (2.2)	268 (3.6)	56 (4.1)	264 (1.9)	34 (3.6)	267 (2.4)
Low ability	**1992**	6 (1.8)	236 (8.9)	52 (6.2)	245 (2.4)	42 (6.1)	244 (2.6)
Mixed ability	**1992**	7 (2.5)	259 (3.8)	50 (5.0)	261 (1.9)	43 (5.5)	262 (2.7)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent were rounded to 0 percent. Percentages may not total 100 percent due to rounding error. The question about working with instruments and solids was not asked in 1990.

TABLE 9.20 Students' Reports on the Frequency with Which Students Do Work with Objects Like Rulers, Counting Blocks or Geometric Shapes in Mathematics Class, at Grade 4, and with Measuring Instruments or Geometric Solids at Grades 8 and 12

Working with rulers, counting blocks, or geometric shapes	Assessment Years	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	34 (1.2)<	216 (1.3)>	24 (0.8)	227 (0.9)	41 (1.2)>	216 (1.0)>
	1990	41 (1.5)	210 (1.3)	25 (1.1)	225 (1.7)	34 (1.3)	208 (1.3)
High ability	1992	33 (3.9)	234 (3.5)	31 (2.8)	246 (4.4)	36 (3.4)	234 (2.7)
	1990	46 (4.2)	238 (5.8)	28 (3.3)	244 (5.2)	26 (4.6)	224 (5.7)
Average ability	1992	32 (1.7)<	221 (2.3)>	25 (1.8)	227 (1.7)	42 (2.1)>	219 (1.3)
	1990	41 (2.4)	212 (2.1)	27 (2.1)	223 (2.7)	32 (2.0)	212 (3.0)
Low ability	1992	36 (2.7)	191 (3.1)	18 (1.8)	203 (3.0)	46 (2.9)	197 (2.9)
	1990	40 (4.3)	198 (4.5)	21 (3.0)	216 (6.8)	39 (4.7)	200 (4.0)
Mixed ability	1992	38 (2.0)	214 (1.8)>	25 (1.4)	224 (1.5)	38 (2.0)	215 (1.9)>
	1990	37 (2.8)	207 (2.1)	27 (2.1)	227 (3.3)	36 (3.6)	208 (1.9)
Work with Measuring Instruments or Geometric Solids		At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 8							
Nation	1992	20 (1.1)	265 (1.6)	28 (0.9)	273 (1.3)	52 (1.4)	266 (1.0)
High ability	1992	16 (1.6)	295 (3.7)	28 (1.6)	300 (2.6)	56 (2.2)	300 (2.0)
Average ability	1992	22 (1.6)	265 (2.2)	29 (1.3)	271 (2.0)	49 (2.1)	263 (1.4)
Low ability	1992	20 (1.9)	241 (3.3)	26 (2.3)	251 (3.6)	54 (2.8)	243 (2.0)
Mixed ability	1992	23 (2.5)	261 (2.2)	27 (2.4)	269 (1.9)	50 (2.9)	258 (1.7)
Grade 12							
Nation	1992	23 (0.9)	295 (1.2)	23 (0.7)	304 (1.1)	54 (1.1)	298 (1.1)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.21 | Teachers' Reports on the Frequency with Which Students Do Work with Objects Like Rulers, Counting Blocks, or Geometric Shapes in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	46 (3.0)	218 (1.9)	44 (2.9)	216 (1.7)	10 (1.8)	219 (2.6)
Northeast	43 (7.0)	220 (5.3)	46 (6.2)	220 (3.7)	11 (5.2)	220 (5.4)!
Southeast	48 (4.9)	210 (4.1)	46 (5.2)	204 (2.5)	6 (2.1)	210 (5.2)!
Central	36 (6.7)	223 (2.5)	48 (7.0)	224 (3.1)	16 (4.4)	224 (4.7)!
West	55 (5.4)	219 (2.9)	38 (5.1)	215 (2.6)	7 (2.9)	217 (4.6)!
STATES						
Alabama	40 (4.3)	211 (2.7)	52 (4.5)	206 (1.7)	8 (2.3)	202 (3.4)!
Arizona	38 (3.2)	214 (1.9)	48 (3.1)	216 (1.4)	13 (2.0)	208 (2.8)
Arkansas	21 (2.8)	211 (3.1)	59 (3.4)	209 (1.1)	20 (2.8)	207 (2.1)
California	57 (4.0)	209 (2.2)	36 (3.7)	205 (2.6)	6 (1.8)	205 (6.6)!
Colorado	56 (3.2)	223 (1.5)	41 (3.4)	216 (1.8)	3 (1.2)	214 (7.1)!
Connecticut	62 (3.5)	230 (1.6)	33 (3.4)	226 (2.5)	5 (1.1)	207 (4.6)!
Delaware	28 (0.9)	219 (1.5)	57 (0.9)	216 (1.1)	15 (0.7)	217 (2.6)
Dist. Columbia	68 (1.0)	192 (0.8)	27 (1.0)	190 (1.4)	5 (0.2)	180 (4.6)
Florida	51 (3.3)	215 (1.6)	43 (3.3)	210 (1.8)	6 (1.3)	209 (8.0)!
Georgia	50 (3.6)	213 (2.1)	45 (3.5)	214 (2.1)	6 (1.4)	213 (7.1)!
Hawaii	40 (3.8)	213 (2.0)	48 (3.3)	214 (1.9)	11 (2.2)	210 (3.7)
Idaho	39 (3.8)	223 (1.8)	53 (3.8)	220 (1.3)	8 (1.7)	210 (2.5)!
Indiana	27 (3.4)	217 (2.6)	62 (3.4)	221 (1.2)	11 (2.0)	216 (2.9)
Iowa	41 (3.9)	229 (1.9)	53 (3.6)	229 (1.2)	6 (1.5)	230 (3.5)!
Kentucky	51 (3.8)	214 (1.7)	44 (3.7)	213 (1.1)	5 (1.4)	206 (4.1)!
Louisiana	44 (3.7)	204 (2.4)	44 (3.5)	202 (2.3)	12 (2.0)	200 (4.0)
Maine	53 (4.2)	231 (1.3)	43 (3.9)	231 (1.6)	4 (1.6)	225 (6.4)!
Maryland	62 (3.3)	219 (1.5)	37 (3.3)	218 (2.5)	2 (0.7)	*** (***)
Massachusetts	48 (4.0)	227 (2.0)	42 (3.9)	227 (1.9)	9 (2.3)	224 (4.0)!
Michigan	51 (3.8)	218 (2.5)	43 (3.6)	222 (2.4)	6 (1.7)	210 (5.6)!
Minnesota	42 (3.8)	228 (1.9)	50 (3.8)	227 (1.6)	8 (1.5)	221 (3.2)
Mississippi	38 (4.1)	200 (1.9)	49 (3.9)	202 (1.9)	13 (2.6)	195 (3.8)!
Missouri	33 (3.6)	222 (3.0)	57 (3.9)	222 (1.4)	10 (2.4)	219 (3.1)!
Nebraska	45 (3.9)	227 (2.1)	45 (3.9)	223 (1.8)	10 (2.4)	225 (2.4)!
New Hampshire	53 (3.1)	230 (1.5)	42 (3.2)	229 (1.8)	5 (2.0)	224 (2.9)!
New Jersey	42 (3.8)	229 (2.5)	51 (3.9)	227 (2.3)	6 (1.6)	214 (3.5)!
New Mexico	38 (3.7)	212 (1.7)	50 (3.6)	214 (1.7)	11 (2.4)	205 (3.4)!
New York	46 (3.5)	217 (2.1)	46 (3.1)	218 (1.9)	8 (1.7)	213 (3.6)!
North Carolina	43 (2.9)	214 (1.6)	48 (2.9)	210 (1.8)	10 (1.6)	214 (3.1)
North Dakota	19 (3.0)	230 (2.2)	68 (3.1)	227 (1.1)	13 (2.7)	228 (2.9)!
Ohio	38 (3.9)	217 (2.3)	52 (3.7)	219 (1.4)	10 (2.1)	211 (3.5)!
Oklahoma	23 (3.1)	221 (2.0)	59 (3.5)	220 (1.4)	17 (2.1)	217 (1.6)
Pennsylvania	33 (3.5)	223 (2.3)	53 (3.7)	224 (1.9)	14 (2.3)	220 (4.5)
Rhode Island	35 (3.2)	216 (2.9)	48 (3.7)	216 (2.2)	17 (2.5)	203 (3.2)
South Carolina	49 (3.1)	214 (1.6)	47 (3.2)	210 (1.5)	4 (1.0)	199 (3.8)!
Tennessee	28 (2.1)	209 (3.0)	54 (2.6)	209 (1.5)	17 (2.5)	212 (2.2)
Texas	55 (3.9)	217 (2.0)	40 (3.7)	219 (2.2)	4 (1.2)	209 (7.0)!
Utah	41 (3.2)	226 (1.4)	49 (3.5)	221 (1.5)	11 (2.2)	219 (2.6)!
Virginia	42 (3.3)	223 (2.3)	51 (2.8)	217 (1.7)	8 (1.3)	218 (3.1)
West Virginia	32 (3.1)	216 (2.1)	53 (3.8)	213 (1.5)	15 (2.7)	209 (2.1)
Wisconsin	45 (3.7)	227 (1.8)	50 (4.0)	229 (1.2)	5 (1.9)	225 (2.9)!
Wyoming	42 (3.6)	226 (1.5)	53 (3.6)	223 (1.2)	5 (1.1)	225 (3.8)!
TERRITORY						
Guam	40 (1.4)	192 (1.5)	53 (1.6)	192 (1.0)	7 (0.8)	182 (5.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.22 | Students' Reports on the Frequency with Which They Work with Objects Like Rulers, Counting Blocks, or Geometric Shapes in Mathematics Class

	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	35 (1.3)	215 (1.4)	24 (0.9)	226 (1.1)	41 (1.3)	214 (1.1)
Northeast	36 (2.7)	222 (3.7)	26 (2.3)	229 (2.6)	38 (2.0)	220 (2.5)
Southeast	40 (2.9)	209 (2.7)	19 (1.2)	218 (2.4)	41 (3.7)	205 (2.1)
Central	26 (2.0)	219 (3.0)	26 (2.1)	229 (2.2)	47 (2.0)	220 (2.9)
West	38 (2.6)	215 (2.5)	24 (1.8)	226 (2.1)	38 (2.5)	214 (1.8)
STATES						
Alabama	28 (1.7)	200 (1.9)	21 (1.2)	216 (2.3)	51 (2.2)	208 (1.7)
Arizona	29 (1.4)	208 (1.6)	23 (0.9)	221 (1.7)	48 (1.5)	214 (1.4)
Arkansas	30 (1.8)	205 (1.9)	19 (0.9)	218 (1.7)	51 (1.8)	208 (1.1)
California	40 (1.6)	203 (2.3)	23 (1.3)	214 (2.3)	37 (1.9)	209 (1.6)
Colorado	37 (1.5)	216 (1.5)	28 (1.0)	227 (1.4)	35 (1.7)	218 (1.4)
Connecticut	40 (1.9)	223 (1.5)	27 (1.3)	235 (1.4)	33 (1.4)	222 (1.6)
Delaware	29 (1.3)	210 (1.3)	21 (0.9)	229 (1.7)	50 (1.5)	215 (1.4)
Dist. Columbia	52 (1.1)	192 (0.9)	18 (0.9)	202 (1.8)	30 (1.0)	186 (1.6)
Florida	36 (2.4)	211 (2.2)	21 (1.1)	221 (2.2)	43 (2.4)	210 (1.6)
Georgia	35 (1.8)	208 (1.9)	24 (1.0)	224 (2.2)	42 (2.0)	214 (1.4)
Hawaii	46 (1.8)	211 (1.8)	21 (0.9)	220 (2.0)	33 (1.5)	212 (1.6)
Idaho	33 (2.0)	218 (1.5)	27 (1.1)	227 (1.3)	40 (1.8)	218 (1.2)
Indiana	31 (1.8)	216 (1.5)	24 (0.9)	226 (1.2)	44 (1.8)	219 (1.5)
Iowa	30 (1.6)	226 (1.7)	31 (1.3)	236 (1.2)	39 (1.9)	227 (1.3)
Kentucky	39 (1.7)	211 (1.6)	25 (1.1)	220 (1.6)	37 (1.8)	213 (1.3)
Louisiana	36 (1.4)	199 (1.8)	19 (1.0)	211 (2.1)	45 (1.5)	204 (1.6)
Maine	35 (2.1)	228 (1.4)	35 (1.4)	237 (1.4)	29 (1.7)	228 (1.7)
Maryland	35 (1.8)	213 (1.9)	26 (1.1)	228 (1.7)	39 (1.8)	212 (1.7)
Massachusetts	42 (1.7)	224 (1.7)	24 (1.3)	233 (1.6)	34 (2.0)	223 (1.7)
Michigan	36 (1.6)	215 (2.4)	26 (1.1)	227 (1.8)	38 (1.6)	217 (2.1)
Minnesota	33 (2.0)	225 (1.6)	28 (1.1)	233 (1.2)	39 (2.0)	226 (1.3)
Mississippi	38 (1.8)	197 (1.7)	16 (1.0)	210 (2.2)	46 (1.8)	200 (1.2)
Missouri	30 (1.3)	217 (1.8)	26 (1.3)	228 (1.5)	44 (2.0)	220 (1.5)
Nebraska	32 (2.1)	224 (2.0)	28 (1.5)	230 (1.8)	40 (1.9)	221 (1.4)
New Hampshire	36 (2.0)	229 (1.6)	24 (1.0)	233 (1.7)	40 (2.0)	226 (1.3)
New Jersey	36 (1.9)	224 (2.2)	27 (1.3)	232 (1.9)	37 (2.2)	224 (2.1)
New Mexico	30 (1.9)	208 (2.5)	19 (0.9)	220 (2.5)	51 (2.2)	212 (1.2)
New York	38 (1.9)	213 (1.8)	24 (1.1)	226 (2.0)	38 (1.7)	216 (1.6)
North Carolina	36 (1.5)	209 (1.7)	23 (0.9)	222 (1.5)	41 (1.7)	208 (1.4)
North Dakota	24 (1.6)	223 (1.8)	28 (1.0)	233 (1.3)	48 (1.6)	227 (1.0)
Ohio	30 (1.5)	215 (1.7)	24 (1.2)	226 (1.8)	46 (2.1)	215 (1.4)
Oklahoma	26 (1.5)	215 (1.6)	23 (1.2)	226 (1.6)	51 (2.0)	218 (1.2)
Pennsylvania	34 (1.9)	220 (1.7)	29 (1.3)	230 (1.6)	36 (1.8)	222 (1.8)
Rhode Island	32 (1.7)	212 (2.7)	21 (1.0)	222 (1.8)	47 (1.8)	212 (1.9)
South Carolina	39 (1.6)	207 (1.4)	21 (1.1)	222 (1.4)	40 (1.5)	209 (1.3)
Tennessee	29 (1.3)	204 (2.1)	20 (1.0)	219 (2.1)	51 (1.8)	209 (1.4)
Texas	40 (1.8)	213 (1.7)	24 (1.2)	226 (1.8)	36 (2.0)	216 (1.8)
Utah	33 (1.5)	219 (1.5)	28 (1.0)	230 (1.4)	39 (1.8)	221 (1.2)
Virginia	32 (2.0)	216 (2.0)	25 (1.3)	230 (1.9)	44 (1.9)	217 (1.4)
West Virginia	34 (1.6)	212 (1.5)	25 (1.1)	221 (1.6)	40 (1.7)	211 (1.2)
Wisconsin	32 (1.8)	225 (1.8)	30 (1.0)	235 (1.2)	37 (1.6)	225 (1.3)
Wyoming	29 (1.6)	223 (1.5)	26 (1.2)	229 (1.2)	45 (1.6)	222 (1.2)
TERRITORY						
Guam	40 (1.3)	187 (1.3)	17 (0.9)	199 (1.8)	43 (1.3)	192 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 9.23 | Teachers' Reports on the Frequency with Which Students Do Work with Measuring Instruments or Geometric Solids

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (1.1)	270 (3.7)	50 (3.3)	265 (1.5)	42 (3.3)	271 (2.1)
Northeast	8 (3.0)	266 (6.0)!	48 (8.3)	267 (4.6)	44 (7.8)	270 (5.9)
Southeast	8 (1.9)	265 (5.2)!	54 (6.1)	259 (2.3)	38 (5.4)	265 (3.5)
Central	4 (1.9)	*** (***)	50 (5.9)	272 (2.2)	46 (6.1)	279 (6.2)
West	8 (2.0)	276 (7.9)!	49 (6.2)	263 (2.0)	43 (7.0)	271 (3.0)
STATES						
Alabama	5 (1.7)	243 (7.5)!	65 (4.0)	249 (2.3)	30 (3.5)	260 (2.7)
Arizona	8 (2.3)	261 (2.6)!	41 (3.8)	263 (1.7)	51 (3.8)	266 (2.3)
Arkansas	6 (2.0)	250 (7.1)!	39 (3.6)	254 (2.1)	56 (3.6)	257 (1.9)
California	13 (2.3)	260 (5.4)	50 (2.7)	257 (2.3)	37 (2.7)	267 (2.5)
Colorado	9 (1.9)	272 (3.5)!	52 (3.3)	271 (1.4)	39 (3.3)	272 (1.9)
Connecticut	6 (1.3)	279 (3.8)!	56 (3.6)	270 (2.1)	38 (3.5)	277 (2.1)
Delaware	8 (0.7)	254 (3.1)	48 (1.0)	262 (1.2)	44 (0.9)	264 (1.3)
Dist. Columbia	13 (0.7)	251 (2.7)	53 (1.0)	228 (1.2)	34 (1.1)	238 (2.0)
Florida	5 (1.4)	264 (4.5)!	41 (2.8)	259 (1.7)	54 (3.0)	260 (2.4)
Georgia	8 (1.6)	258 (4.0)!	50 (3.1)	255 (1.9)	43 (3.3)	262 (1.9)
Hawaii	11 (0.7)	256 (2.5)	44 (1.0)	257 (1.2)	45 (0.9)	258 (1.5)
Idaho	12 (1.6)	274 (2.2)	38 (2.6)	275 (1.3)	49 (2.6)	274 (1.4)
Indiana	5 (1.3)	268 (5.4)!	56 (3.2)	267 (1.4)	40 (3.0)	274 (2.5)
Iowa	8 (2.4)	281 (3.6)!	53 (4.1)	279 (1.6)	40 (4.3)	288 (1.7)
Kentucky	6 (1.6)	264 (5.7)!	51 (3.3)	262 (1.7)	43 (3.4)	263 (2.1)
Louisiana	3 (1.1)	246 (8.7)!	32 (3.5)	250 (2.7)	64 (3.5)	250 (1.9)
Maine	13 (2.3)	278 (2.5)	50 (4.3)	277 (1.4)	37 (4.0)	281 (2.1)
Maryland	6 (1.4)	257 (7.1)!	48 (3.7)	262 (2.4)	46 (3.8)	271 (2.4)
Massachusetts	7 (1.9)	274 (3.5)!	39 (3.0)	271 (2.2)	54 (3.1)	273 (1.8)
Michigan	16 (2.8)	257 (5.5)	53 (3.4)	268 (2.3)	31 (3.6)	270 (3.6)
Minnesota	9 (1.7)	279 (5.6)!	48 (4.2)	281 (1.7)	43 (4.3)	283 (2.1)
Mississippi	10 (2.2)	244 (4.6)!	37 (3.4)	245 (2.1)	54 (3.7)	246 (1.8)
Missouri	8 (2.0)	267 (3.4)!	52 (3.7)	268 (1.5)	40 (3.4)	276 (1.9)
Nebraska	7 (2.4)	277 (6.5)!	54 (3.7)	276 (1.6)	39 (3.7)	280 (1.7)
New Hampshire	9 (2.1)	278 (3.6)!	47 (3.3)	276 (1.3)	44 (2.9)	279 (1.8)
New Jersey	10 (2.0)	252 (6.3)!	52 (4.1)	272 (2.2)	38 (4.0)	275 (3.0)
New Mexico	5 (1.2)	257 (4.0)!	46 (3.8)	259 (1.1)	49 (3.7)	260 (1.6)
New York	7 (2.2)	253 (8.5)!	45 (3.7)	266 (3.0)	48 (3.8)	266 (3.3)
North Carolina	5 (1.4)	255 (5.7)!	50 (3.2)	255 (1.9)	45 (3.3)	260 (1.9)
North Dakota	10 (1.9)	281 (2.4)	59 (4.4)	283 (1.6)	32 (4.1)	284 (1.9)
Ohio	5 (1.8)	265 (5.6)!	53 (4.0)	267 (2.6)	41 (3.7)	273 (2.7)
Oklahoma	7 (2.2)	265 (4.2)!	44 (3.5)	267 (1.8)	49 (3.5)	268 (1.9)
Pennsylvania	6 (1.7)	267 (3.6)!	44 (3.5)	263 (1.9)	50 (3.8)	277 (2.4)
Rhode Island	9 (0.7)	262 (2.9)	38 (1.3)	263 (1.3)	53 (1.4)	267 (0.9)
South Carolina	8 (1.3)	251 (5.4)	64 (3.3)	256 (1.4)	28 (3.2)	273 (3.4)
Tennessee	9 (2.1)	259 (3.6)	49 (3.4)	255 (1.8)	41 (3.3)	261 (2.5)
Texas	8 (1.5)	254 (4.4)	54 (3.2)	262 (2.0)	38 (3.2)	271 (2.1)
Utah	4 (0.8)	271 (4.9)	34 (3.1)	273 (1.5)	61 (3.2)	274 (1.1)
Virginia	3 (0.9)	268 (8.6)!	36 (2.9)	264 (2.2)	60 (2.8)	270 (1.4)
West Virginia	3 (0.9)	259 (6.1)!	49 (3.6)	256 (1.4)	48 (3.6)	262 (1.7)
Wisconsin	10 (2.9)	277 (2.7)!	63 (4.6)	278 (2.4)	28 (3.5)	278 (2.3)
Wyoming	8 (1.5)	263 (3.5)	52 (2.4)	273 (1.1)	40 (2.4)	280 (1.5)
TERRITORIES						
Guam	1 (0.3)	*** (***)	47 (1.4)	234 (1.6)	52 (1.3)	236 (1.3)
Virgin Islands	0 (0.0)	*** (***)	36 (0.8)	214 (1.2)	64 (0.8)	225 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.24 | Students' Reports on the Frequency with Which They Do Work with Measuring Instruments or Geometric Solids

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	20 (1.2)	263 (1.7)	27 (1.1)	272 (1.4)	52 (1.6)	265 (1.1)
Northeast	21 (2.7)	263 (4.3)	27 (1.8)	270 (4.9)	52 (3.2)	269 (2.8)
Southeast	19 (1.6)	255 (2.5)	24 (3.1)	266 (1.9)	57 (3.7)	256 (2.1)
Central	19 (2.9)	271 (2.7)	29 (2.0)	278 (3.1)	52 (3.6)	271 (1.9)
West	21 (2.6)	264 (3.2)	30 (1.3)	272 (2.1)	49 (2.6)	265 (2.5)
STATES						
Alabama	18 (1.5)	243 (3.4)	24 (1.2)	254 (2.4)	59 (1.9)	253 (1.6)
Arizona	18 (1.2)	263 (2.5)	22 (1.0)	266 (1.7)	60 (1.5)	265 (1.5)
Arkansas	17 (1.4)	250 (2.4)	26 (1.1)	259 (2.2)	57 (1.7)	255 (1.3)
California	25 (1.4)	255 (2.8)	28 (1.1)	267 (2.3)	48 (1.9)	260 (1.9)
Colorado	20 (1.3)	273 (2.0)	28 (1.1)	276 (1.4)	52 (1.5)	269 (1.3)
Connecticut	19 (1.2)	271 (2.4)	27 (0.9)	277 (1.9)	54 (1.5)	272 (1.5)
Delaware	18 (0.8)	258 (1.9)	26 (0.9)	262 (1.7)	56 (1.2)	264 (1.3)
Dist. Columbia	21 (1.2)	230 (2.0)	21 (1.3)	242 (2.7)	58 (1.3)	233 (1.3)
Florida	19 (1.2)	251 (2.3)	21 (1.2)	262 (2.2)	60 (1.8)	261 (1.8)
Georgia	19 (1.2)	249 (1.8)	25 (1.1)	261 (1.8)	56 (1.6)	261 (1.4)
Hawaii	26 (0.9)	255 (1.6)	23 (0.8)	259 (1.6)	51 (1.0)	257 (1.1)
Idaho	23 (1.4)	275 (1.6)	25 (1.0)	277 (1.1)	53 (1.7)	273 (1.0)
Indiana	19 (1.4)	268 (2.3)	29 (1.2)	271 (1.5)	52 (1.6)	269 (1.5)
Iowa	23 (1.9)	281 (1.6)	31 (1.2)	286 (1.3)	46 (2.1)	281 (1.3)
Kentucky	19 (1.7)	258 (2.1)	27 (1.1)	263 (1.6)	55 (1.8)	261 (1.3)
Louisiana	13 (1.2)	241 (2.8)	21 (1.2)	255 (2.4)	66 (1.8)	249 (1.8)
Maine	21 (1.6)	276 (1.8)	29 (1.3)	280 (1.5)	50 (1.8)	278 (1.4)
Maryland	16 (1.0)	258 (2.6)	27 (1.1)	270 (1.8)	57 (1.5)	264 (1.7)
Massachusetts	16 (1.6)	270 (2.9)	22 (1.0)	275 (1.9)	62 (2.3)	272 (1.5)
Michigan	24 (1.9)	263 (2.5)	30 (1.2)	271 (1.8)	47 (2.4)	266 (1.9)
Minnesota	25 (1.6)	280 (1.9)	32 (1.4)	283 (1.4)	43 (2.1)	282 (1.5)
Mississippi	18 (1.6)	238 (2.2)	19 (1.1)	249 (1.7)	62 (1.8)	247 (1.5)
Missouri	23 (1.6)	269 (1.6)	31 (1.1)	273 (1.6)	46 (1.9)	270 (1.6)
Nebraska	21 (1.9)	276 (1.9)	34 (1.4)	281 (1.6)	45 (2.2)	275 (1.3)
New Hampshire	16 (1.3)	278 (1.7)	28 (1.3)	280 (1.3)	55 (1.6)	276 (1.2)
New Jersey	26 (1.7)	265 (2.8)	28 (1.4)	279 (1.8)	46 (2.1)	270 (2.2)
New Mexico	16 (0.8)	254 (2.2)	26 (1.0)	264 (1.2)	58 (1.3)	258 (1.1)
New York	22 (1.7)	260 (3.4)	28 (1.3)	270 (2.4)	51 (1.9)	266 (2.5)
North Carolina	16 (1.1)	250 (2.5)	28 (1.1)	263 (1.5)	56 (1.2)	258 (1.4)
North Dakota	22 (1.6)	285 (1.9)	31 (1.6)	283 (1.3)	47 (1.9)	282 (1.5)
Ohio	19 (1.3)	266 (2.3)	28 (1.1)	271 (2.0)	53 (1.7)	266 (1.8)
Oklahoma	15 (1.2)	262 (2.6)	23 (1.5)	272 (1.8)	62 (1.8)	267 (1.2)
Pennsylvania	16 (1.3)	265 (2.5)	24 (1.1)	273 (2.0)	60 (1.6)	271 (1.6)
Rhode Island	18 (1.0)	262 (1.8)	23 (0.8)	270 (1.5)	59 (1.2)	264 (1.0)
South Carolina	25 (1.4)	251 (1.6)	28 (1.0)	260 (1.5)	48 (1.8)	265 (1.4)
Tennessee	20 (1.8)	255 (2.0)	26 (1.4)	265 (1.7)	54 (1.9)	256 (1.8)
Texas	19 (1.4)	259 (2.3)	30 (1.2)	267 (2.0)	50 (1.6)	264 (1.5)
Utah	16 (1.0)	271 (1.7)	22 (0.9)	275 (1.4)	62 (1.4)	274 (0.9)
Virginia	15 (1.1)	263 (2.8)	23 (1.0)	273 (1.6)	63 (1.5)	266 (1.3)
West Virginia	16 (1.4)	254 (1.9)	24 (1.1)	261 (1.5)	60 (1.7)	258 (1.2)
Wisconsin	25 (1.5)	278 (2.9)	33 (1.0)	280 (1.6)	42 (1.5)	276 (1.7)
Wyoming	21 (1.5)	273 (1.9)	31 (0.9)	275 (1.4)	48 (1.4)	275 (1.1)
TERRITORIES						
Guam	22 (1.0)	224 (2.8)	19 (1.1)	244 (2.4)	59 (1.0)	236 (1.3)
Virgin Islands	17 (0.9)	215 (2.0)	14 (1.0)	227 (2.2)	68 (0.8)	223 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 9.25 Teachers' Reports on the Availability of Resources, Grades 4 and 8

		How well supplied are you by your school system with the instructional materials and other resources you need to teach your class?					
		I get some or none of the resources I need.		I get most of the resources I need.		I get all the resources I need.	
	Assessment Years	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	**1992**	36 (3.1)	214 (1.8)	52 (2.6)	222 (1.1)>	11 (1.5)	222 (2.4)
	1990	37 (2.9)	209 (1.7)	49 (2.8)	217 (1.6)	14 (2.1)	216 (2.6)
Advantaged Urban	**1992**	32 (6.0)	234 (3.9)	57 (5.2)	239 (3.1)	10 (3.5)	245 (2.9)
	1990	14 (7.6)	227 (4.4)	62 (9.5)	232 (4.3)	24 (8.6)	233 (4.6)
Disadvantaged Urban	**1992**	55 (7.5)	198 (3.1)	37 (7.1)	190 (4.5)	8 (3.1)	188 (5.1)
	1990	52 (8.2)	189 (2.6)	32 (7.2)	198 (6.1)	16 (6.2)	206 (8.9)
Extreme Rural	**1992**	36 (8.1)	210 (5.0)	50 (6.9)	218 (2.8)	14 (5.9)	221(12.7)
	1990	43 (9.6)	210 (5.7)	50(12.4)	214 (8.3)	7 (5.1)	219 (6.3)
Other	**1992**	35 (3.4)	215 (2.2)	54 (2.9)	222 (1.1)>	11 (1.7)	221 (2.4)>
	1990	38 (3.9)	212 (1.8)	49 (3.6)	216 (1.7)	13 (2.5)	212 (2.7)
Grade 8							
Nation	**1992**	33 (1.7)	263 (1.4)	53 (2.2)	271 (1.1)	14 (2.0)	274 (3.1)
	1990	31 (3.9)	260 (2.9)	54 (3.9)	266 (2.0)	15 (2.1)	265 (3.0)
Advantaged Urban	**1992**	29 (7.4)	282 (4.6)	47 (7.9)	292 (4.1)	24 (5.3)	289(10.1)
	1990	10 (5.0)	277 (3.5)	54 (8.3)	285 (1.5)	36 (7.4)	274 (7.2)
Disadvantaged Urban	**1992**	51 (6.6)	238 (3.7)	37 (6.1)	242 (3.8)	12 (4.3)	239 (7.6)
	1990	49(14.0)	251 (5.4)	40(13.1)	255 (6.1)	11 (7.3)	242(10.4)
Extreme Rural	**1992**	35 (8.2)	265 (6.9)	46(12.0)	272 (5.5)	19(11.5)	262 (3.7)
	1990	43(10.1)	256 (7.4)	55(10.2)	260 (9.5)	2 (2.6)	241 (*.*)
Other	**1992**	32 (2.4)	264 (1.8)	56 (2.6)	270 (1.2)	12 (1.8)	275 (2.7)>
	1990	31 (5.3)	262 (4.2)	56 (5.1)	265 (2.1)	13 (2.7)	264 (3.1)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 9.26 | Teachers' Reports on "How Well Supplied Are You by Your School System with the Instructional Materials and Other Resources You Need to Teach Your Class?"

PUBLIC SCHOOLS	Grade 4 - 1992					
	I get some or none of the resources I need		I get most of the resources I need		I get all the resources I need	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	37 (3.5)	213 (2.0)	52 (3.0)	220 (1.3)	11 (1.7)	221 (2.8)
Northeast	44 (6.1)	215 (4.3)	45 (5.4)	228 (3.3)	11 (3.3)	233 (3.9)!
Southeast	41 (5.3)	206 (2.8)	46 (5.0)	210 (2.8)	13 (2.8)	206 (3.0)!
Central	35(10.6)	221 (4.2)!	54 (7.8)	225 (2.2)	11 (4.6)	226 (6.4)!
West	32 (4.7)	211 (3.3)	58 (4.8)	219 (2.2)	10 (2.3)	225 (4.5)!
STATES						
Alabama	53 (3.3)	206 (2.0)	39 (3.2)	210 (2.4)	8 (1.9)	208 (4.7)!
Arizona	48 (3.6)	212 (1.5)	43 (3.2)	216 (1.8)	10 (1.7)	218 (3.8)
Arkansas	43 (4.4)	207 (2.0)	48 (4.4)	211 (1.3)	9 (1.5)	210 (2.7)
California	46 (3.3)	202 (2.2)	49 (3.3)	211 (2.6)	5 (1.2)	210 (5.5)!
Colorado	34 (3.2)	217 (1.8)	55 (2.9)	220 (1.6)	11 (2.1)	225 (4.3)
Connecticut	31 (3.1)	219 (2.3)	59 (3.2)	231 (1.5)	10 (1.8)	227 (3.6)
Delaware	51 (0.8)	216 (1.1)	42 (0.9)	218 (1.2)	7 (0.4)	220 (3.2)
Dist. Columbia	77 (0.7)	187 (0.8)	21 (0.7)	203 (2.0)	2 (0.1)	*** (***)
Florida	34 (3.0)	209 (2.7)	54 (2.9)	215 (1.7)	12 (1.9)	213 (3.1)
Georgia	36 (3.8)	211 (2.0)	54 (3.8)	215 (1.9)	10 (1.7)	214 (3.7)
Hawaii	53 (3.3)	213 (1.7)	43 (3.1)	213 (1.8)	5 (1.1)	209 (4.5)!
Idaho	36 (2.9)	219 (1.6)	57 (2.6)	221 (1.2)	7 (1.7)	222 (2.2)!
Indiana	36 (3.9)	219 (1.8)	53 (3.5)	218 (1.4)	11 (2.4)	223 (2.6)!
Iowa	23 (3.3)	225 (2.1)	62 (3.7)	230 (1.3)	15 (2.9)	232 (2.5)!
Kentucky	36 (3.6)	210 (1.6)	56 (3.9)	216 (1.5)	9 (2.1)	211 (3.2)!
Louisiana	53 (3.5)	199 (2.1)	41 (3.3)	208 (2.0)	6 (1.6)	208 (6.7)!
Maine	41 (3.9)	228 (1.4)	52 (3.9)	233 (1.6)	7 (1.8)	231 (3.7)!
Maryland	47 (3.3)	211 (2.4)	46 (3.0)	220 (2.2)	7 (1.5)	228 (3.2)!
Massachusetts	47 (3.7)	220 (1.8)	47 (3.5)	231 (1.7)	6 (1.8)	219 (7.6)!
Michigan	48 (3.7)	217 (2.5)	45 (3.6)	222 (2.5)	7 (1.9)	224 (5.7)!
Minnesota	31 (3.1)	225 (2.1)	58 (3.2)	227 (1.2)	10 (2.2)	234 (3.0)!
Mississippi	52 (3.9)	198 (1.9)	42 (3.7)	202 (2.0)	6 (2.0)	205 (3.3)!
Missouri	33 (4.1)	217 (2.5)	56 (3.9)	222 (1.3)	11 (2.2)	228 (4.0)
Nebraska	17 (2.5)	223 (2.6)	67 (3.2)	224 (1.6)	15 (2.5)	226 (2.3)
New Hampshire	47 (3.8)	226 (1.8)	48 (3.5)	232 (1.5)	4 (1.3)	229 (5.8)!
New Jersey	38 (3.4)	219 (3.0)	47 (3.7)	231 (1.5)	15 (3.0)	230 (3.9)!
New Mexico	48 (3.5)	210 (2.3)	47 (3.5)	213 (1.7)	5 (1.3)	216 (3.8)!
New York	40 (2.9)	210 (2.6)	49 (3.4)	222 (1.9)	11 (2.3)	219 (3.1)!
North Carolina	52 (3.3)	211 (1.3)	44 (3.1)	213 (1.8)	4 (1.2)	218 (3.9)!
North Dakota	42 (4.2)	226 (1.5)	50 (4.1)	229 (1.1)	8 (2.4)	228 (2.3)!
Ohio	50 (4.2)	213 (1.8)	46 (4.1)	221 (1.5)	5 (1.7)	226 (5.7)!
Oklahoma	39 (3.9)	219 (1.6)	54 (3.9)	220 (1.3)	7 (1.7)	217 (3.4)!
Pennsylvania	33 (3.6)	215 (2.5)	56 (3.5)	227 (1.7)	10 (2.1)	233 (4.1)
Rhode Island	57 (3.5)	212 (2.3)	41 (3.4)	217 (1.9)	2 (1.0)	*** (***)
South Carolina	37 (3.3)	208 (2.2)	54 (3.3)	213 (1.5)	9 (1.7)	214 (4.8)
Tennessee	50 (4.0)	207 (1.9)	43 (3.7)	212 (1.8)	7 (2.0)	213 (5.1)!
Texas	32 (3.0)	214 (2.2)	54 (3.3)	218 (2.0)	14 (2.1)	220 (2.1)
Utah	53 (3.6)	221 (1.5)	41 (3.5)	225 (1.4)	6 (1.4)	220 (3.8)!
Virginia	35 (3.6)	213 (1.9)	54 (3.6)	222 (1.8)	11 (1.8)	225 (3.3)
West Virginia	38 (2.7)	212 (1.4)	51 (3.0)	215 (1.7)	11 (1.8)	213 (3.1)
Wisconsin	30 (3.2)	226 (2.2)	60 (2.8)	229 (1.4)	10 (2.0)	228 (2.9)!
Wyoming	18 (2.5)	227 (1.9)	66 (3.1)	224 (1.2)	16 (2.3)	226 (1.6)
TERRITORY						
Guam	63 (1.0)	189 (1.0)	32 (1.0)	195 (1.8)	4 (0.8)	204 (4.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 9.26 | Teachers' Reports on "How Well Supplied Are You by Your School System with the Instructional Materials and Other Resources You Need to Teach Your Class?" (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	I get some or none of the resources I need		I get most of the resources I need		I get all the resources I need	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	33 (1.9)	261 (1.5)	53 (2.5)	269 (1.1)	13 (2.3)	272 (3.4)
Northeast	37 (4.6)	250 (3.3)	51 (5.1)	277 (3.4)	12 (4.6)	274 (5.9)!
Southeast	35 (3.6)	260 (1.9)	50 (5.5)	260 (1.6)	15 (7.0)	265 (6.0)!
Central	26 (3.9)	272 (4.6)	60 (5.7)	274 (2.2)	13 (3.3)	282 (6.1)!
West	35 (3.4)	263 (2.7)	52 (4.1)	268 (2.4)	12 (2.7)	270 (5.1)!
STATES						
Alabama	37 (4.1)	246 (2.6)	54 (4.5)	255 (2.2)	10 (2.0)	254 (5.9)!
Arizona	41 (3.6) >	265 (1.8)	43 (3.7)	264 (1.6)	15 (3.1)	265 (4.2)!
Arkansas	28 (3.3) <	254 (2.5)	56 (3.9) >	256 (1.8)	16 (3.3)	256 (4.0)!
California	32 (2.8)	256 (2.5)	56 (3.0)	264 (2.2)	12 (2.0)	262 (4.4)
Colorado	36 (3.3) >	269 (1.8)	51 (3.0)	274 (1.5) >	13 (2.1)	271 (4.4)
Connecticut	30 (3.7)	264 (3.2)	50 (3.9)	274 (2.3)	20 (3.3)	283 (2.3) >
Delaware	46 (0.8) »	264 (1.3) >	47 (0.8) «	260 (1.5)	7 (0.5)	261 (3.0)
Dist. Columbia	59 (1.0)	233 (1.3)	35 (1.0)	237 (1.4)	6 (0.4) »	230 (4.6)
Florida	37 (3.2)	254 (3.0)	50 (3.3)	262 (1.7)	13 (2.3)	263 (3.9)
Georgia	32 (3.4)	254 (2.4)	53 (3.5)	262 (1.6)	15 (2.4)	259 (3.6)
Hawaii	47 (0.9)	256 (1.3) »	47 (0.9) «	258 (1.2)	7 (0.4) >	256 (2.9)
Idaho	42 (3.3)	273 (1.1)	49 (3.5)	275 (1.4)	9 (2.3)	277 (3.4)!
Indiana	31 (4.2)	265 (2.0)	55 (4.2)	272 (1.7)	13 (2.6)	268 (3.5)
Iowa	22 (2.9)	280 (1.8)	60 (4.5)	283 (1.2) >	18 (3.5)	286 (2.7) >
Kentucky	35 (4.4)	259 (1.7)	51 (3.7)	265 (1.8) >	14 (3.0)	260 (3.4)!
Louisiana	49 (4.6)	246 (2.4)	43 (4.4)	252 (2.6)	8 (2.4)	253 (5.5)!
Maine	28 (4.1)	273 (1.7)	57 (4.5)	280 (1.4)	15 (3.0)	279 (3.1)
Maryland	34 (3.6) >	256 (3.1)	54 (4.0)	270 (2.1)	11 (2.6)	270 (5.7)!
Massachusetts	42 (2.6)	265 (2.2)	50 (3.2)	279 (1.5)	9 (2.0)	271 (3.1)!
Michigan	31 (3.9)	263 (3.1)	56 (3.8)	268 (2.2)	13 (2.4)	271 (5.1)
Minnesota	29 (3.3)	279 (2.0)	58 (4.1)	284 (1.2) »	13 (2.9)	280 (3.1)!
Mississippi	57 (4.0)	244 (1.5)	34 (3.5)	248 (2.3)	9 (2.3)	244 (4.6)!
Missouri	26 (3.8)	268 (2.0)	60 (3.7)	271 (1.3)	14 (2.6)	274 (3.0)
Nebraska	23 (3.1)	273 (1.9)	61 (3.7)	279 (1.5)	16 (2.6)	275 (2.9)
New Hampshire	36 (3.7) >	275 (1.4) >	53 (3.5)	279 (1.3) >	11 (2.4)	279 (3.3)!
New Jersey	31 (3.6)	261 (3.8)	46 (4.1)	273 (2.4)	23 (4.1)	280 (3.7)
New Mexico	41 (3.6)	254 (1.5)	51 (3.9)	263 (1.3) »	9 (1.6)	258 (2.3)
New York	31 (3.7)	256 (3.3)	48 (3.9)	266 (3.1)	20 (3.3)	280 (3.2) >
North Carolina	46 (3.4)	255 (1.7) »	43 (3.0)	260 (1.7) >	11 (2.5)	257 (2.3)!
North Dakota	25 (3.2)	285 (2.1)	50 (4.6)	282 (1.4)	25 (3.4)	281 (2.2)
Ohio	51 (4.9) >	266 (2.0)	42 (4.0)	272 (2.4)	7 (1.9)	260 (8.0)!
Oklahoma	37 (3.9)	266 (2.0)	46 (3.9)	270 (2.1)	17 (2.6)	264 (3.3)
Pennsylvania	29 (3.4)	263 (3.2)	51 (3.5)	274 (2.0) >	20 (2.8)	272 (2.8)
Rhode Island	42 (0.9) »	253 (1.5)	51 (0.7)	273 (1.1) »	6 (0.6) «	269 (2.6)
South Carolina	32 (3.3)	259 (2.3)	52 (3.5)	261 (1.7)	16 (2.3)	259 (3.4)
Tennessee	42 (3.8)	259 (2.1)	46 (3.4)	258 (1.9)	12 (2.2)	255 (4.3)
Texas	29 (2.8)	258 (2.7)	49 (3.2)	265 (2.4)	22 (2.7)	268 (2.5) >
Utah	38 (2.8)	274 (1.3)	53 (2.5)	274 (1.3)	10 (1.5)	271 (2.5)
Virginia	33 (3.5)	263 (2.4) >	51 (3.4)	270 (1.4)	16 (2.6)	266 (3.4)
West Virginia	38 (4.3)	259 (1.6)	53 (4.4)	258 (1.2)	9 (2.2)	257 (2.6)!
Wisconsin	19 (2.9)	275 (3.1)	69 (3.7)	280 (1.9)	12 (2.5)	272 (3.8)
Wyoming	20 (1.7)	272 (1.6)	66 (3.0) »	276 (1.0)	14 (2.4) «	271 (3.4)
TERRITORIES						
Guam	69 (1.1)	233 (1.3) >	27 (1.1) »	233 (2.6)	3 (0.4) «	*** (***)
Virgin Islands	82 (0.5) »	216 (1.1)	18 (0.5) «	241 (2.4) »	0 (0.0)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 9.26 | **Teachers' Reports on "How Well Supplied Are You by Your School System with the Instructional Materials and Other Resources You Need to Teach Your Class?" (continued)**

PUBLIC SCHOOLS	Grade 8 - 1990					
	I get some or none of the resources I need		I get most of the resources I need		I get all the resources I need	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	31 (4.2)	260 (3.1)	56 (4.0)	265 (2.0)	13 (2.4)	264 (3.7)
Northeast	36(11.8)	274(10.0)!	38(11.7)	272 (3.3)!	26 (6.6)	272 (7.1)!
Southeast	21 (9.7)	256(10.4)!	71 (9.5)	257 (3.0)!	8 (4.0)	257(12.0)!
Central	47 (7.3)	257 (3.5)	45 (7.8)	272 (2.4)!	8 (2.4)	*** (***)
West	23 (6.1)	254 (4.6)!	62 (3.8)	267 (4.2)	15 (5.2)	261 (5.1)!
STATES						
Alabama	31 (4.0)	249 (2.6)	49 (4.8)	252 (2.1)	20 (4.1)	262 (2.3)!
Arizona	31 (2.6)	257 (2.5)	53 (2.8)	261 (1.8)	17 (2.6)	261 (2.1)
Arkansas	41 (4.1)	254 (1.3)	40 (3.9)	261 (2.0)	19 (3.1)	255 (2.7)
California	34 (3.6)	254 (2.6)	53 (3.7)	260 (2.0)	14 (2.1)	253 (3.9)
Colorado	23 (3.2)	262 (2.4)	61 (3.6)	269 (1.3)	15 (2.4)	266 (2.9)
Connecticut	23 (2.7)	267 (1.8)	52 (3.0)	270 (1.5)	25 (3.1)	272 (2.8)
Delaware	32 (1.1)	259 (1.5)	60 (1.3)	264 (1.3)	7 (0.4)	258 (2.1)
Dist. Columbia	58 (1.1)	229 (1.0)	38 (1.2)	235 (1.5)	4 (0.3)	243 (3.1)
Florida	32 (3.1)	252 (2.2)	53 (3.1)	257 (1.6)	15 (2.2)	263 (3.8)
Georgia	36 (3.1)	257 (2.3)	52 (3.7)	259 (1.5)	12 (2.4)	255 (4.5)!
Hawaii	44 (0.9)	249 (1.4)	51 (1.0)	254 (1.1)	5 (0.5)	249 (3.6)
Idaho	40 (1.1)	271 (1.1)	52 (1.9)	272 (1.3)	8 (1.7)	271 (2.6)!
Indiana	29 (3.9)	268 (2.5)	54 (3.7)	268 (1.6)	17 (3.0)	267 (2.7)
Iowa	14 (3.0)	277 (4.2)!	60 (4.6)	278 (1.4)	25 (4.2)	277 (2.2)
Kentucky	31 (4.0)	256 (1.7)	53 (4.0)	257 (1.4)	16 (2.2)	259 (3.0)
Louisiana	58 (4.3)	245 (1.7)	34 (4.1)	247 (2.2)	8 (1.7)	250 (5.3)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	21 (2.8)	247 (3.2)	61 (3.4)	264 (2.0)	18 (2.5)	268 (2.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	33 (3.9)	258 (2.6)	55 (4.0)	266 (1.9)	12 (2.3)	274 (2.5)
Minnesota	23 (3.8)	273 (1.9)	65 (3.7)	276 (1.2)	12 (2.1)	281 (3.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	22 (1.9)	269 (1.9)	58 (2.6)	277 (1.4)	20 (2.6)	279 (2.4)
New Hampshire	23 (1.0)	268 (1.9)	61 (1.3)	274 (1.0)	15 (0.8)	275 (2.0)
New Jersey	22 (3.2)	260 (3.4)	56 (3.5)	271 (2.1)	22 (2.6)	276 (3.5)
New Mexico	39 (1.1)	256 (1.5)	50 (1.2)	257 (0.8)	11 (0.7)	255 (2.9)
New York	35 (3.9)	248 (3.0)	45 (3.5)	265 (2.0)	20 (2.7)	267 (3.3)
North Carolina	36 (3.3)	244 (2.1)	45 (3.6)	253 (1.7)	19 (2.8)	259 (2.3)
North Dakota	35 (3.4)	282 (1.9)	48 (2.9)	282 (1.6)	18 (2.7)	278 (4.2)
Ohio	34 (4.0)	260 (1.9)	54 (4.4)	266 (1.7)	12 (2.8)	267 (5.1)!
Oklahoma	33 (4.0)	261 (2.3)	55 (4.6)	266 (1.7)	12 (2.7)	259 (3.0)!
Pennsylvania	29 (3.3)	260 (3.6)	52 (3.6)	267 (2.0)	19 (3.6)	273 (3.7)
Rhode Island	32 (0.9)	254 (1.2)	54 (1.2)	264 (1.0)	14 (0.6)	264 (1.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	29 (3.1)	250 (2.8)	51 (3.3)	259 (1.8)	20 (2.9)	258 (3.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	31 (3.1)	254 (3.3)	47 (3.4)	267 (2.0)	22 (2.5)	270 (3.3)
West Virginia	45 (4.3)	254 (1.5)	47 (4.5)	257 (1.7)	8 (1.9)	266 (3.8)!
Wisconsin	23 (3.4)	268 (2.6)	58 (4.0)	277 (1.5)	18 (3.4)	280 (2.8)
Wyoming	16 (0.8)	273 (1.5)	53 (1.3)	273 (1.0)	32 (0.9)	272 (1.2)
TERRITORIES						
Guam	72 (1.0)	230 (0.9)	20 (0.7)	238 (2.3)	7 (0.6)	242 (2.9)
Virgin Islands	66 (0.6)	217 (1.3)	34 (0.6)	224 (1.5)	0 (0.0)	*** (***)

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TABLE 9.27 Teachers' Reports on the Frequency of Testing, Grades 4 and 8

	How often do you use each of the following to assess student progress in mathematics class?					
	Once or Twice a Week		Once or Twice a Month		Yearly or Never	
Multiple-Choice Tests	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	6 (1.0)	206 (3.6)	43 (2.8)	220 (1.4)	51 (2.7)	219 (1.3)
Grade 8	4 (1.0)	266 (7.6)	30 (2.5)	263 (2.0)	66 (2.8)	271 (1.3)
	Once or Twice a Week		Once or Twice a Month		Yearly or Never	
Problem Sets	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	53 (2.8)	218 (1.1)	39 (2.3)	220 (1.3)	9 (1.4)	212 (2.7)
Grade 8	58 (2.3)	272 (1.5)	32 (2.4)	265 (1.5)	10 (1.7)	263 (3.1)
	At Least Monthly		Once or Twice a Year		Never or Hardly Ever	
Short Written Responses	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	44 (2.6)	218 (1.7)	16 (1.5)	218 (2.4)	40 (2.0)	219 (1.3)
Grade 8	44 (2.7)	270 (1.5)	22 (2.0)	268 (1.9)	33 (2.7)	268 (2.0)
	At Least Monthly		Once or Twice a Year		Never or Hardly Ever	
Projects, Portfolios, or Presentations	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	21 (1.7)	218 (2.2)	25 (1.8)	220 (2.3)	54 (2.4)	217 (1.2)
Grade 8	21 (2.0)	268 (2.3)	32 (2.5)	269 (1.5)	47 (2.6)	269 (1.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.28 Students' Reports on How Often They Take Mathematics Tests, Grades 4, 8, and 12

	Assessment Years	Almost Every Day		At Least Once a Week		Less than Weekly	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	**1992**	9 (0.6)	199 (2.1)>	30 (1.2)<	213 (1.0)	61 (1.5)>	224 (1.0)>
	1990	9 (0.7)	190 (2.5)	43 (1.0)	210 (1.0)	47 (1.2)	220 (1.2)
Grade 8	**1992**	6 (0.3)>	248 (2.0)	55 (1.2)<	265 (1.0)	39 (1.3)>	275 (1.3)>
	1990	4 (0.5)	242 (2.9)	65 (2.1)	262 (1.6)	31 (2.1)	268 (1.7)
Grade 12 - All Students	**1992**	4 (0.3)>	280 (2.9)	50 (1.2)<	298 (0.9)	46 (1.2)	301 (1.1)>
	1990	2 (0.4)	275 (5.1)	57 (1.8)	297 (1.3)	41 (1.8)	292 (1.7)
Grade 12 - Taking Math	**1992**	4 (0.4)	284 (3.7)	57 (1.4)<	302 (1.1)	39 (1.5)>	316 (1.3)
	1990	3 (0.5)	282 (5.6)	68 (2.3)	302 (1.4)	29 (2.3)	311 (2.3)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.29 | Teachers' Reports on How Often They Use Multiple-Choice Mathematics Tests to Assess Student Progress

PUBLIC SCHOOLS	Grade 4 - 1992					
	Once or Twice a Week		Once or Twice a Month		Yearly or Never	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	6 (1.0)	204 (3.6)	44 (3.1)	218 (1.6)	50 (2.9)	217 (1.5)
Northeast	8 (2.4)	205 (6.9)!	45 (7.3)	222 (4.1)!	47 (6.3)	221 (4.0)
Southeast	11 (2.6)	199 (3.7)!	49 (5.4)	206 (1.9)	40 (4.8)	212 (4.1)
Central	2 (1.5)	*** (***)	43 (7.6)	225 (2.6)	54 (7.4)	222 (2.3)
West	3 (1.2)	196 (4.5)!	36 (4.2)	224 (3.3)	60 (4.5)	215 (2.4)
STATES						
Alabama	17 (2.7)	206 (2.3)	63 (3.2)	209 (1.7)	20 (2.8)	203 (3.7)
Arizona	5 (1.2)	207 (4.4)!	42 (2.9)	216 (1.5)	53 (3.2)	214 (1.5)
Arkansas	8 (1.8)	200 (4.0)!	65 (3.8)	210 (1.1)	27 (3.7)	211 (2.9)
California	5 (1.5)	196 (6.9)!	43 (3.7)	207 (2.6)	52 (3.9)	209 (2.1)
Colorado	2 (0.8)	*** (***)	37 (3.2)	220 (1.7)	61 (3.4)	221 (1.6)
Connecticut	2 (0.7)	*** (***)	43 (3.8)	229 (2.0)	55 (4.0)	227 (1.9)
Delaware	5 (0.5)	221 (4.4)	39 (1.3)	217 (1.5)	56 (1.0)	217 (1.3)
Dist. Columbia	29 (0.8)	187 (1.7)	45 (1.0)	192 (1.1)	26 (0.9)	194 (1.7)
Florida	10 (1.9)	205 (4.2)	54 (3.7)	213 (1.3)	36 (3.8)	213 (2.3)
Georgia	10 (1.8)	202 (4.4)	57 (3.5)	214 (1.9)	33 (3.4)	217 (2.3)
Hawaii	5 (1.1)	211 (3.6)!	55 (3.2)	214 (2.0)	40 (3.0)	212 (2.0)
Idaho	2 (0.8)	*** (***)	47 (3.8)	222 (1.1)	51 (3.9)	219 (1.3)
Indiana	5 (1.1)	221 (2.2)!	45 (4.1)	218 (1.6)	50 (4.1)	220 (1.5)
Iowa	3 (1.3)	222 (6.1)!	54 (3.9)	230 (1.2)	43 (3.8)	228 (1.6)
Kentucky	10 (1.9)	214 (3.6)	56 (3.3)	215 (1.3)	34 (3.8)	212 (2.0)
Louisiana	16 (3.1)	196 (4.8)	56 (3.9)	205 (2.0)	28 (3.7)	201 (2.9)
Maine	2 (0.9)	*** (***)	39 (4.0)	231 (1.8)	59 (3.9)	231 (1.4)
Maryland	8 (1.7)	198 (4.9)!	49 (3.5)	220 (2.4)	44 (3.9)	219 (1.8)
Massachusetts	4 (1.4)	206 (7.4)!	37 (3.9)	226 (1.6)	58 (3.7)	228 (1.7)
Michigan	4 (1.6)	199 (9.5)!	42 (4.5)	218 (2.7)	54 (4.6)	221 (2.2)
Minnesota	3 (1.6)	227 (5.6)!	56 (3.7)	228 (1.3)	41 (3.9)	225 (1.9)
Mississippi	18 (3.3)	191 (3.4)	52 (3.9)	202 (1.7)	30 (3.6)	200 (2.3)
Missouri	5 (1.2)	206 (8.1)!	62 (3.3)	222 (1.7)	33 (3.3)	224 (1.5)
Nebraska	1 (0.6)	*** (***)	42 (3.4)	224 (2.0)	57 (3.4)	225 (1.8)
New Hampshire	1 (0.5)	*** (***)	38 (3.8)	229 (1.7)	61 (3.8)	230 (1.5)
New Jersey	10 (2.0)	218 (4.8)!	57 (3.8)	226 (2.0)	33 (3.9)	231 (2.5)
New Mexico	5 (1.4)	207 (4.7)!	44 (4.5)	211 (1.9)	51 (4.4)	213 (1.9)
New York	14 (2.3)	203 (3.7)	53 (3.8)	218 (1.8)	33 (3.4)	222 (2.0)
North Carolina	9 (1.7)	212 (3.8)	51 (3.6)	212 (1.4)	40 (3.5)	212 (1.8)
North Dakota	2 (1.3)	*** (***)	44 (4.2)	226 (1.4)	54 (4.2)	229 (1.1)
Ohio	5 (1.3)	221 (5.4)!	52 (4.1)	218 (1.7)	43 (4.4)	216 (1.9)
Oklahoma	5 (1.1)	216 (2.8)!	63 (3.4)	220 (1.1)	32 (3.4)	218 (2.1)
Pennsylvania	4 (1.3)	214 (5.6)!	51 (3.7)	226 (1.8)	44 (3.8)	221 (2.6)
Rhode Island	2 (0.8)	*** (***)	42 (3.9)	211 (2.5)	57 (3.8)	216 (2.0)
South Carolina	7 (1.3)	212 (3.5)	53 (3.2)	211 (1.7)	39 (3.3)	212 (1.7)
Tennessee	13 (1.8)	197 (2.5)	53 (3.3)	210 (1.6)	34 (3.4)	214 (2.2)
Texas	11 (2.0)	210 (4.0)	60 (3.3)	219 (1.8)	29 (3.2)	218 (2.3)
Utah	5 (1.4)	220 (4.4)!	57 (3.5)	222 (1.1)	38 (3.5)	225 (1.5)
Virginia	6 (1.4)	206 (3.4)!	52 (3.0)	222 (1.9)	42 (3.0)	218 (1.9)
West Virginia	5 (1.5)	213 (4.4)!	56 (3.8)	214 (1.4)	39 (3.6)	213 (1.8)
Wisconsin	1 (0.5)	*** (***)	60 (3.1)	226 (1.5)	39 (3.1)	231 (1.6)
Wyoming	2 (0.9)	*** (***)	45 (3.6)	225 (1.5)	53 (3.7)	225 (1.1)
TERRITORY						
Guam	23 (1.2)	189 (1.9)	35 (1.3)	192 (1.4)	42 (1.3)	193 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.29 Teachers' Reports on How Often They Use Multiple-Choice Mathematics Tests to Assess Student Progress (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Once or Twice a Week		Once or Twice a Month		Yearly or Never	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	4 (1.1)	263 (9.2)!	30 (2.7)	262 (2.1)	66 (3.0)	271 (1.3)
Northeast	3 (1.9)	*** (***)	24 (5.8)	266 (8.4)!	73 (6.5)	269 (2.7)
Southeast	3 (2.1)	*** (***)	44 (4.1)	259 (2.3)	53 (5.4)	265 (2.2)
Central	4 (2.8)	*** (***)	24 (5.1)	270 (4.6)!	72 (6.2)	275 (2.5)
West	5 (1.7)	249 (6.3)!	26 (5.9)	259 (2.9)!	69 (5.7)	272 (3.1)
STATES						
Alabama	5 (1.7)	242 (7.2)!	44 (4.4)	250 (2.8)	51 (4.4)	254 (2.0)
Arizona	3 (1.2)	257 (5.0)!	19 (2.9)	261 (2.6)	78 (3.2)	266 (1.6)
Arkansas	6 (1.8)	249 (7.4)!	33 (3.5)	256 (2.7)	61 (3.4)	256 (1.4)
California	2 (0.7)	*** (***)	29 (2.7)	256 (2.4)	69 (2.7)	264 (2.1)
Colorado	3 (1.0)	253 (9.1)!	24 (3.2)	271 (2.0)	73 (3.1)	272 (1.3)
Connecticut	2 (0.7)	*** (***)	25 (3.0)	264 (3.5)	73 (2.9)	276 (1.1)
Delaware	3 (0.2)	*** (***)	25 (1.0)	258 (1.3)	72 (1.0)	264 (1.2)
Dist. Columbia	22 (0.8)	224 (1.8)	36 (1.2)	229 (1.8)	42 (0.9)	246 (1.6)
Florida	9 (1.9)	246 (4.3)!	39 (3.5)	255 (1.8)	52 (3.9)	265 (2.2)
Georgia	6 (1.3)	246 (5.0)!	43 (3.0)	256 (2.1)	52 (3.1)	261 (1.7)
Hawaii	2 (0.2)	*** (***)	19 (0.9)	250 (1.7)	79 (0.9)	260 (1.0)
Idaho	4 (1.3)	268 (3.7)!	20 (2.5)	270 (1.6)	76 (2.8)	277 (0.9)
Indiana	3 (1.1)	*** (***)	21 (3.3)	269 (2.4)	77 (3.5)	270 (1.5)
Iowa	1 (1.1)	*** (***)	24 (3.3)	279 (2.4)	75 (3.4)	284 (1.1)
Kentucky	2 (0.4)	*** (***)	41 (4.2)	262 (1.7)	58 (4.4)	263 (2.0)
Louisiana	8 (2.4)	231 (4.5)!	46 (4.3)	251 (2.4)	46 (4.1)	252 (2.4)
Maine	1 (1.1)	*** (***)	29 (3.3)	279 (2.6)	70 (3.3)	278 (1.2)
Maryland	3 (1.1)	242 (9.6)!	35 (3.5)	258 (3.0)	62 (3.6)	271 (1.8)
Massachusetts	3 (1.2)	*** (***)	17 (2.9)	271 (3.7)	80 (3.0)	272 (1.3)
Michigan	4 (1.9)	241(11.4)!	23 (3.2)	256 (4.1)	73 (3.1)	271 (1.8)
Minnesota	2 (1.0)	*** (***)	20 (3.3)	279 (3.2)	78 (3.4)	282 (1.1)
Mississippi	8 (2.3)	240 (5.4)!	39 (3.7)	244 (2.4)	53 (4.0)	247 (1.9)
Missouri	1 (0.2)	*** (***)	23 (3.3)	265 (2.2)	76 (3.4)	273 (1.2)
Nebraska	0 (0.2)	*** (***)	23 (4.0)	279 (2.5)	77 (3.9)	277 (1.3)
New Hampshire	4 (2.3)	285 (4.4)!	24 (3.0)	275 (1.7)	72 (3.4)	278 (1.3)
New Jersey	7 (2.0)	262(11.1)!	37 (4.3)	263 (3.1)	56 (4.7)	278 (1.9)
New Mexico	1 (0.9)	*** (***)	19 (2.6)	254 (2.4)	79 (2.9)	261 (1.0)
New York	7 (2.2)	238 (9.8)!	29 (3.5)	258 (4.7)	64 (3.9)	272 (2.1)
North Carolina	2 (0.8)	258 (7.5)!	45 (3.4)	256 (1.8)	53 (3.6)	259 (1.6)
North Dakota	4 (2.0)	273 (3.6)!	18 (2.5)	283 (3.1)	78 (2.8)	283 (1.1)
Ohio	2 (1.0)	*** (***)	23 (3.3)	260 (2.9)	75 (3.3)	272 (2.0)
Oklahoma	5 (1.8)	250 (4.7)!	20 (3.1)	263 (2.8)	75 (3.3)	270 (1.4)
Pennsylvania	1 (0.9)	*** (***)	19 (3.0)	267 (2.5)	80 (3.2)	272 (1.9)
Rhode Island	2 (0.2)	*** (***)	17 (0.6)	257 (1.2)	81 (0.7)	267 (1.0)
South Carolina	6 (1.8)	239 (4.5)!	38 (3.4)	259 (1.8)	56 (3.4)	264 (1.9)
Tennessee	5 (1.7)	252 (6.6)!	47 (4.0)	256 (1.9)	48 (4.3)	260 (1.9)
Texas	4 (1.5)	253 (7.0)!	45 (3.6)	257 (1.6)	51 (3.6)	272 (2.2)
Utah	4 (1.5)	269 (2.5)!	29 (2.9)	267 (1.5)	67 (3.0)	277 (1.1)
Virginia	3 (1.0)	263(11.5)!	33 (2.7)	262 (1.9)	64 (2.9)	271 (1.5)
West Virginia	3 (1.1)	249 (7.2)!	26 (3.4)	255 (1.9)	71 (3.5)	260 (1.3)
Wisconsin	1 (0.6)	*** (***)	27 (5.2)	276 (4.0)!	72 (5.2)	279 (1.7)
Wyoming	1 (0.2)	*** (***)	18 (2.6)	271 (2.4)	81 (2.6)	276 (0.9)
TERRITORIES						
Guam	0 (0.0)	*** (***)	52 (1.1)	243 (1.6)	48 (1.1)	227 (1.3)
Virgin Islands	6 (0.7)	203 (5.9)	41 (1.0)	218 (1.2)	52 (1.0)	226 (1.4)

TABLE 9.30 | Teachers' Reports on How Often They Use Problem Sets to Assess Student Progress

PUBLIC SCHOOLS	Grade 4 - 1992					
	Once or Twice a Week		Once or Twice a Month		Yearly or Never	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	53 (3.2)	217 (1.3)	38 (2.6)	219 (1.6)	9 (1.6)	210 (3.0)
Northeast	44 (6.0)	221 (4.0)	47 (6.1)	223 (2.8)	9 (3.7)	208 (8.5)!
Southeast	61 (8.1)	205 (2.1)	30 (5.1)	210 (4.6)	9 (3.6)	213 (4.4)!
Central	52 (6.4)	228 (1.8)	43 (6.2)	219 (2.8)	5 (2.6)	*** (***)
West	53 (3.3)	217 (2.0)	36 (2.9)	222 (4.1)	11 (2.9)	205 (5.6)!
STATES						
Alabama	55 (3.5)	206 (2.1)	35 (3.6)	207 (2.2)	10 (2.6)	214 (3.6)!
Arizona	55 (2.7)	214 (1.3)	34 (2.4)	214 (1.9)	10 (2.1)	216 (3.5)!
Arkansas	54 (3.8)	208 (1.1)	37 (3.7)	210 (2.3)	9 (2.0)	212 (3.1)!
California	39 (3.2)	205 (2.2)	46 (3.0)	209 (2.3)	15 (2.5)	207 (3.7)
Colorado	49 (3.2)	219 (1.5)	37 (2.8)	222 (1.7)	14 (1.6)	220 (2.4)
Connecticut	41 (3.9)	229 (1.8)	49 (3.6)	227 (1.5)	10 (2.2)	225 (6.7)!
Delaware	52 (1.7)	219 (1.0)	35 (1.7)	217 (1.2)	14 (0.8)	215 (2.6)
Dist. Columbia	57 (1.2)	192 (1.3)	34 (1.1)	191 (1.4)	9 (0.5)	182 (2.6)
Florida	56 (3.0)	213 (1.4)	34 (2.8)	213 (2.3)	11 (1.9)	208 (3.1)
Georgia	52 (2.6)	217 (1.5)	39 (2.8)	210 (2.3)	9 (1.4)	218 (4.8)
Hawaii	35 (2.9)	214 (1.6)	53 (2.8)	213 (1.8)	12 (2.0)	208 (4.1)
Idaho	56 (3.2)	220 (1.3)	37 (3.2)	221 (1.4)	7 (1.6)	219 (2.8)!
Indiana	58 (3.4)	220 (1.5)	30 (3.0)	219 (1.8)	12 (2.6)	217 (3.4)!
Iowa	47 (3.5)	230 (1.5)	43 (3.3)	229 (1.4)	10 (2.1)	222 (3.1)!
Kentucky	49 (3.5)	213 (1.6)	40 (3.1)	214 (1.7)	11 (2.7)	214 (3.4)!
Louisiana	61 (3.6)	203 (2.1)	27 (3.0)	204 (2.7)	12 (2.7)	202 (4.2)!
Maine	40 (4.2)	229 (1.3)	48 (4.4)	231 (1.7)	12 (2.1)	233 (4.0)
Maryland	47 (3.2)	219 (1.8)	42 (3.2)	219 (2.1)	11 (2.1)	211 (6.2)!
Massachusetts	46 (3.5)	223 (1.8)	41 (3.0)	229 (1.9)	13 (3.1)	231 (2.5)!
Michigan	49 (3.6)	218 (2.5)	42 (3.9)	220 (2.6)	9 (2.0)	220 (4.1)!
Minnesota	47 (3.7)	228 (1.6)	37 (3.3)	227 (1.8)	15 (2.7)	226 (3.0)
Mississippi	67 (3.8)	200 (1.6)	23 (3.3)	198 (3.4)	10 (2.2)	200 (4.3)!
Missouri	53 (3.0)	222 (1.9)	38 (3.1)	220 (2.3)	9 (2.0)	220 (3.0)!
Nebraska	43 (4.0)	223 (1.5)	47 (4.0)	227 (1.9)	11 (2.5)	225 (3.7)!
New Hampshire	42 (3.4)	228 (1.7)	46 (3.3)	230 (1.8)	12 (2.4)	231 (3.5)
New Jersey	45 (4.2)	224 (2.4)	43 (4.1)	230 (2.2)	12 (2.6)	225 (4.0)!
New Mexico	47 (4.0)	212 (1.7)	36 (3.6)	212 (1.8)	17 (2.5)	211 (3.1)
New York	46 (3.3)	216 (2.0)	43 (3.6)	219 (2.1)	10 (1.9)	213 (4.5)
North Carolina	56 (3.0)	211 (1.5)	35 (3.2)	214 (2.0)	9 (1.7)	210 (3.3)
North Dakota	48 (4.1)	227 (1.4)	41 (3.7)	229 (1.5)	12 (3.3)	226 (1.8)
Ohio	63 (3.9)	218 (1.4)	30 (3.7)	218 (2.3)	7 (1.4)	211 (4.7)!
Oklahoma	58 (3.9)	219 (1.5)	32 (3.9)	221 (1.5)	10 (2.6)	220 (2.6)!
Pennsylvania	50 (3.8)	224 (1.8)	39 (3.9)	225 (2.3)	10 (1.7)	219 (3.6)
Rhode Island	46 (3.1)	216 (2.1)	41 (2.4)	214 (2.2)	13 (2.5)	208 (4.1)!
South Carolina	56 (3.3)	211 (1.4)	31 (2.9)	211 (1.8)	14 (2.3)	213 (3.8)
Tennessee	58 (2.1)	208 (1.7)	31 (2.4)	213 (2.1)	11 (1.5)	209 (3.5)
Texas	59 (3.4)	218 (1.9)	31 (3.0)	215 (2.5)	10 (1.9)	220 (3.9)
Utah	60 (3.2)	223 (1.2)	32 (3.0)	225 (1.7)	9 (2.1)	219 (2.8)!
Virginia	52 (2.9)	220 (1.9)	37 (3.0)	218 (2.1)	11 (2.3)	220 (2.8)!
West Virginia	47 (3.2)	214 (1.6)	43 (3.0)	212 (1.7)	9 (2.3)	214 (2.9)!
Wisconsin	45 (3.3)	228 (1.6)	45 (3.4)	227 (1.7)	10 (2.3)	231 (4.3)!
Wyoming	51 (3.9)	224 (1.3)	42 (3.6)	225 (1.2)	8 (1.8)	224 (2.9)!
TERRITORY						
Guam	59 (1.1)	191 (1.3)	29 (1.1)	192 (1.7)	12 (0.5)	193 (3.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.30 | Teachers' Reports on How Often They Use Problem Sets to Assess Student Progress (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Once or Twice a Week		Once or Twice a Month		Yearly or Never	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	59 (2.5)	271 (1.6)	31 (2.5)	263 (1.7)	10 (1.9)	262 (3.2)
Northeast	56 (4.8)	277 (4.0)	31 (4.9)	256 (3.5)	13 (3.9)	251 (4.4)!
Southeast	58 (4.6)	263 (2.2)	27 (4.6)	259 (2.6)	15 (5.3)	261 (3.5)!
Central	58 (4.1)	278 (3.6)	36 (6.0)	270 (3.3)!	6 (3.4)	277 (2.9)!
West	61 (5.3)	269 (3.0)	31 (4.5)	264 (3.3)	8 (2.3)	267(10.2)!
STATES						
Alabama	63 (3.8)	252 (2.2)	31 (3.5)	254 (2.7)	6 (2.6)	237 (3.8)!
Arizona	59 (3.8)	266 (1.5)	34 (3.4)	262 (2.6)	7 (1.7)	258 (4.7)!
Arkansas	55 (4.1)	258 (1.7)	32 (3.7)	256 (2.3)	12 (2.6)	249 (3.5)!
California	46 (3.9)	260 (2.6)	43 (4.0)	264 (2.3)	11 (1.9)	258 (4.2)
Colorado	53 (3.5)	271 (1.3)	39 (3.3)	270 (2.2)	9 (2.1)	275 (3.8)!
Connecticut	44 (3.4)	274 (2.4)	48 (3.4)	275 (1.8)	8 (1.9)	257 (7.3)!
Delaware	57 (0.9)	262 (1.1)	35 (0.9)	262 (2.0)	9 (0.6)	261 (2.9)
Dist. Columbia	56 (1.0)	237 (1.2)	33 (1.1)	232 (1.7)	11 (0.7)	232 (4.0)
Florida	56 (3.6)	258 (1.8)	34 (3.4)	262 (2.3)	11 (1.9)	258 (4.5)
Georgia	60 (3.4)	260 (1.6)	29 (3.0)	257 (2.6)	11 (2.0)	250 (3.3)
Hawaii	48 (1.0)	263 (1.4)	41 (0.9)	253 (1.4)	11 (0.6)	249 (2.0)
Idaho	68 (2.8)	276 (1.0)	26 (2.9)	272 (1.6)	6 (1.3)	271 (3.6)!
Indiana	69 (3.1)	269 (1.7)	25 (2.7)	272 (2.5)	6 (2.1)	266 (6.1)!
Iowa	67 (4.5)	284 (1.3)	28 (4.2)	281 (2.0)	5 (1.7)	278 (3.5)!
Kentucky	58 (4.0)	264 (1.5)	35 (3.9)	261 (1.9)	7 (1.8)	260 (6.0)!
Louisiana	59 (3.9)	250 (2.4)	30 (3.5)	251 (3.2)	11 (2.8)	245 (4.3)!
Maine	50 (5.0)	279 (1.6)	41 (4.7)	279 (2.0)	10 (2.2)	274 (3.4)!
Maryland	48 (3.7)	265 (2.5)	38 (3.3)	267 (2.5)	13 (2.6)	265 (5.0)
Massachusetts	61 (3.2)	272 (1.4)	29 (2.6)	277 (2.8)	11 (2.0)	258 (3.8)
Michigan	64 (3.4)	268 (2.2)	30 (3.1)	265 (2.4)	6 (1.2)	259 (6.0)
Minnesota	64 (4.2)	282 (1.4)	28 (3.8)	279 (2.2)	7 (1.8)	283 (5.2)!
Mississippi	69 (3.6)	248 (1.7)	20 (3.1)	239 (3.2)	11 (2.2)	240 (5.2)
Missouri	56 (4.5)	270 (1.3)	32 (3.8)	272 (1.7)	12 (2.4)	269 (2.8)
Nebraska	62 (4.6)	278 (1.6)	31 (4.1)	275 (2.1)	7 (2.3)	277 (3.9)!
New Hampshire	58 (3.5)	277 (1.3)	32 (3.3)	280 (1.5)	11 (2.7)	277 (3.4)!
New Jersey	47 (4.5)	274 (2.3)	44 (4.3)	271 (2.9)	9 (2.1)	256 (6.3)!
New Mexico	59 (3.7)	261 (1.1)	31 (3.0)	256 (1.8)	10 (2.2)	263 (4.0)!
New York	49 (3.9)	271 (2.0)	42 (3.4)	262 (4.0)	9 (1.8)	254 (7.5)!
North Carolina	57 (3.5)	257 (1.9)	32 (3.4)	259 (2.0)	11 (2.4)	255 (3.0)!
North Dakota	64 (4.1)	284 (1.1)	30 (3.5)	282 (1.9)	6 (1.7)	279 (5.9)!
Ohio	60 (4.1)	271 (2.4)	28 (4.0)	270 (2.5)	11 (2.8)	261 (6.2)!
Oklahoma	64 (3.8)	267 (1.6)	29 (3.2)	269 (1.8)	8 (2.2)	259 (4.6)!
Pennsylvania	67 (3.5)	273 (1.5)	25 (3.1)	268 (4.2)	8 (2.3)	256 (5.9)!
Rhode Island	52 (1.1)	268 (1.2)	33 (1.0)	261 (1.4)	15 (0.8)	265 (2.4)
South Carolina	56 (3.3)	263 (1.6)	31 (2.9)	257 (3.0)	13 (2.2)	261 (3.1)
Tennessee	58 (4.1)	260 (2.0)	32 (3.8)	256 (2.4)	9 (2.1)	251 (3.4)!
Texas	63 (3.0)	264 (1.7)	30 (2.9)	265 (2.7)	7 (1.7)	268 (4.5)!
Utah	71 (2.5)	274 (0.9)	22 (2.2)	274 (2.3)	7 (1.4)	267 (3.2)!
Virginia	63 (2.5)	268 (1.6)	28 (2.4)	265 (2.2)	9 (1.6)	267 (4.3)
West Virginia	58 (3.8)	258 (1.4)	30 (3.2)	261 (1.7)	12 (2.4)	256 (3.3)!
Wisconsin	55 (4.2)	278 (1.8)	34 (3.9)	278 (3.0)	11 (2.6)	277 (3.8)!
Wyoming	61 (3.6)	275 (1.1)	33 (3.5)	275 (2.0)	6 (1.8)	268 (4.1)!
TERRITORIES						
Guam	52 (1.5)	242 (1.5)	26 (1.0)	234 (1.9)	23 (1.4)	223 (2.3)
Virgin Islands	61 (0.9)	220 (1.7)	34 (1.0)	225 (1.4)	6 (0.5)	208 (3.0)

TABLE 9.31 | Teachers' Reports on How Often They Use Short Written Responses to Assess Student Progress

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Monthly		Once or Twice a Year		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	46 (3.0)	217 (1.8)	16 (1.6)	216 (2.5)	38 (2.3)	217 (1.5)
Northeast	45 (4.0)	220 (4.5)	19 (2.5)	227 (3.4)	36 (3.7)	217 (3.8)
Southeast	51 (7.5)	208 (4.2)	18 (4.1)	205 (3.6)!	31 (4.8)	209 (2.3)
Central	36 (6.6)	223 (3.1)	11 (3.3)	217 (7.6)!	53 (5.2)	225 (2.5)
West	52 (4.2)	220 (2.8)	17 (2.5)	217 (5.0)	31 (3.7)	213 (3.3)
STATES						
Alabama	48 (3.6)	205 (2.1)	21 (2.8)	212 (3.1)	32 (3.3)	207 (2.2)
Arizona	40 (3.1)	215 (1.7)	23 (2.5)	215 (2.4)	37 (2.9)	212 (1.8)
Arkansas	38 (3.3)	207 (1.4)	17 (2.4)	208 (1.8)	45 (3.0)	211 (1.7)
California	50 (3.5)	208 (2.5)	15 (2.5)	210 (3.3)	35 (3.2)	206 (2.2)
Colorado	43 (3.1)	222 (1.6)	22 (3.0)	216 (2.6)	35 (3.2)	220 (2.1)
Connecticut	45 (2.9)	227 (2.3)	17 (2.3)	231 (2.8)	38 (3.0)	226 (1.9)
Delaware	32 (1.1)	219 (1.2)	18 (0.5)	220 (1.6)	50 (1.1)	216 (1.5)
Dist. Columbia	68 (1.0)	191 (1.0)	15 (0.7)	188 (1.8)	18 (0.7)	192 (2.2)
Florida	44 (3.4)	212 (2.0)	18 (2.3)	214 (2.8)	38 (3.1)	212 (1.9)
Georgia	42 (3.4)	211 (1.9)	13 (2.0)	219 (3.2)	44 (3.4)	214 (1.9)
Hawaii	44 (3.5)	216 (1.8)	17 (2.5)	215 (2.7)	39 (3.1)	209 (2.0)
Idaho	39 (3.3)	221 (1.3)	20 (3.1)	220 (1.7)	41 (3.0)	219 (1.4)
Indiana	30 (3.9)	220 (2.6)	17 (2.6)	221 (2.6)	53 (4.0)	219 (1.4)
Iowa	36 (3.6)	231 (1.8)	20 (2.9)	231 (1.6)	44 (3.8)	227 (1.4)
Kentucky	57 (3.8)	214 (1.6)	21 (3.0)	214 (2.2)	22 (3.0)	211 (2.4)
Louisiana	53 (3.9)	200 (2.3)	15 (2.7)	204 (3.2)	31 (3.8)	207 (2.4)
Maine	49 (3.6)	231 (1.4)	24 (2.8)	230 (1.8)	27 (2.5)	231 (2.2)
Maryland	64 (3.2)	219 (2.1)	16 (2.7)	218 (3.4)	20 (2.4)	215 (2.5)
Massachusetts	37 (3.8)	226 (2.7)	22 (3.1)	228 (2.0)	41 (3.8)	226 (1.9)
Michigan	35 (3.5)	213 (3.0)	20 (2.8)	224 (2.5)	45 (3.3)	222 (2.4)
Minnesota	37 (3.4)	229 (2.0)	19 (2.8)	227 (2.0)	44 (3.0)	226 (1.8)
Mississippi	47 (3.8)	198 (1.9)	13 (2.4)	200 (2.9)	40 (3.4)	202 (2.3)
Missouri	41 (4.2)	220 (2.2)	18 (2.5)	222 (2.7)	41 (4.0)	224 (1.7)
Nebraska	32 (3.2)	229 (2.1)	20 (2.8)	225 (2.7)	47 (3.8)	222 (1.8)
New Hampshire	38 (3.4)	231 (1.7)	17 (2.2)	230 (2.4)	45 (3.6)	228 (1.5)
New Jersey	50 (4.0)	226 (2.0)	15 (3.0)	226 (3.8)!	34 (3.6)	229 (2.3)
New Mexico	50 (3.6)	213 (2.0)	16 (2.9)	205 (2.5)	33 (3.7)	214 (1.9)
New York	48 (3.5)	215 (2.0)	16 (2.2)	224 (2.5)	36 (3.5)	217 (2.1)
North Carolina	44 (2.9)	213 (2.0)	17 (2.2)	209 (2.1)	39 (2.8)	213 (1.7)
North Dakota	31 (3.3)	226 (1.3)	21 (3.1)	230 (1.8)	47 (3.2)	228 (1.3)
Ohio	36 (3.3)	218 (2.0)	20 (2.8)	218 (2.4)	44 (3.7)	216 (2.0)
Oklahoma	35 (3.3)	221 (1.5)	19 (2.8)	217 (2.1)	45 (3.6)	220 (1.3)
Pennsylvania	44 (3.4)	223 (2.0)	20 (2.9)	221 (3.1)	36 (3.2)	224 (2.4)
Rhode Island	30 (2.9)	214 (2.9)	17 (2.3)	215 (2.9)	52 (3.3)	214 (1.9)
South Carolina	45 (3.0)	212 (1.7)	15 (2.0)	210 (2.5)	41 (2.9)	212 (1.9)
Tennessee	40 (3.0)	207 (2.1)	18 (2.4)	213 (1.9)	42 (3.0)	211 (1.9)
Texas	58 (3.6)	218 (1.7)	15 (2.4)	218 (3.1)	26 (3.3)	216 (2.5)
Utah	38 (2.7)	225 (1.4)	17 (2.1)	225 (2.2)	44 (3.1)	220 (1.5)
Virginia	41 (3.2)	216 (1.9)	21 (2.8)	224 (3.[illegible])	38 (2.9)	220 (2.1)
West Virginia	32 (3.6)	213 (1.5)	20 (3.0)	211 ([illegible])	47 (4.0)	215 (1.5)
Wisconsin	45 (3.7)	230 (1.8)	16 (2.2)	225 (2.[illegible])	39 (4.0)	227 (1.5)
Wyoming	36 (3.0)	225 (1.7)	20 (2.7)	222 (1.6)	44 (3.6)	225 (1.2)
TERRITORY						
Guam	52 (1.3)	192 (1.2)	8 (0.7)	197 (3.0)	40 (1.2)	191 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.31 | Teachers' Reports on How Often They Use Short Written Responses to Assess Student Progress (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Monthly		Once or Twice a Year		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	43 (2.9)	269 (1.7)	23 (2.2)	267 (2.1)	34 (2.8)	267 (2.1)
Northeast	52 (7.2)	273 (3.8)	16 (3.8)	256 (5.9)!	32 (7.1)	266 (6.1)!
Southeast	51 (4.3)	265 (3.2)	22 (3.5)	257 (4.8)	27 (4.5)	259 (3.3)
Central	34 (4.4)	273 (3.8)	26 (5.0)	278 (4.2)!	40 (5.5)	274 (3.4)
West	38 (6.0)	266 (2.4)	26 (5.0)	270 (2.7)	36 (5.6)	267 (4.5)
STATES						
Alabama	42 (4.3)	256 (2.2)	23 (4.0)	247 (5.1)	35 (3.7)	250 (2.8)
Arizona	46 (3.6)	264 (1.5)	25 (3.7)	264 (2.6)	29 (3.5)	264 (3.7)
Arkansas	27 (2.7)	259 (2.2)	27 (2.8)	256 (2.6)	46 (3.0)	254 (1.9)
California	45 (3.7)	262 (2.7)	21 (2.5)	260 (3.3)	34 (3.6)	261 (3.0)
Colorado	50 (3.6)	273 (1.7)	16 (2.1)	270 (2.6)	34 (3.3)	270 (2.0)
Connecticut	46 (4.0)	278 (2.4)	21 (2.8)	271 (3.1)	33 (3.9)	268 (2.7)
Delaware	42 (1.0)	262 (1.4)	16 (0.5)	265 (2.5)	42 (1.0)	261 (1.6)
Dist. Columbia	63 (1.0)	231 (1.2)	20 (0.9)	246 (2.8)	17 (0.9)	232 (2.4)
Florida	42 (3.9)	261 (2.2)	22 (2.5)	257 (2.2)	36 (3.9)	259 (3.1)
Georgia	44 (3.5)	258 (1.9)	17 (3.1)	259 (3.9)	40 (3.9)	258 (2.1)
Hawaii	37 (0.9)	262 (1.4)	27 (0.8)	260 (1.6)	36 (1.1)	250 (1.3)
Idaho	31 (3.2)	275 (2.1)	27 (3.0)	277 (2.1)	42 (3.0)	273 (1.3)
Indiana	25 (3.6)	272 (2.6)	26 (3.6)	269 (2.3)	49 (4.5)	269 (1.8)
Iowa	39 (4.0)	283 (1.5)	20 (3.0)	282 (2.3)	41 (4.3)	283 (1.7)
Kentucky	52 (3.9)	264 (1.7)	20 (2.7)	265 (2.6)	28 (3.8)	257 (2.4)
Louisiana	45 (4.0)	252 (2.6)	20 (3.0)	254 (2.5)	35 (3.5)	246 (2.4)
Maine	34 (4.2)	284 (1.9)	34 (4.3)	275 (2.3)	32 (3.9)	276 (2.3)
Maryland	59 (3.8)	266 (2.2)	20 (2.9)	270 (2.9)	21 (2.9)	259 (3.9)
Massachusetts	36 (3.6)	276 (2.3)	18 (2.3)	270 (3.5)	46 (3.5)	270 (1.8)
Michigan	45 (3.9)	265 (2.7)	22 (2.9)	270 (3.0)	33 (3.4)	267 (2.7)
Minnesota	41 (4.0)	285 (1.8)	23 (2.8)	278 (2.3)	36 (3.6)	280 (1.7)
Mississippi	46 (4.0)	246 (2.5)	24 (3.0)	241 (2.6)	30 (3.1)	248 (2.0)
Missouri	33 (3.9)	270 (2.1)	24 (3.2)	270 (2.1)	42 (4.0)	273 (1.5)
Nebraska	39 (4.8)	278 (1.9)	25 (3.1)	278 (2.0)	35 (4.1)	276 (2.1)
New Hampshire	37 (4.1)	280 (1.7)	35 (3.6)	279 (1.5)	28 (3.7)	274 (2.6)
New Jersey	59 (4.0)	272 (2.4)	25 (3.7)	274 (4.0)	17 (2.4)	264 (3.9)
New Mexico	35 (3.3)	261 (1.3)	25 (2.6)	257 (1.8)	40 (2.8)	259 (1.5)
New York	46 (3.9)	263 (3.3)	24 (3.1)	270 (4.1)	30 (3.5)	267 (3.7)
North Carolina	44 (4.1)	260 (2.1)	21 (3.0)	256 (2.2)	36 (4.3)	255 (2.3)
North Dakota	28 (3.7)	283 (1.9)	25 (3.5)	281 (2.3)	47 (4.6)	284 (1.3)
Ohio	34 (4.0)	268 (2.3)	19 (3.1)	266 (3.7)	47 (4.7)	272 (2.3)
Oklahoma	29 (2.9)	269 (2.5)	24 (3.5)	268 (2.7)	47 (3.6)	266 (1.6)
Pennsylvania	40 (3.2)	274 (2.8)	23 (2.5)	270 (2.8)	37 (3.0)	267 (1.8)
Rhode Island	37 (0.9)	266 (1.3)	26 (1.0)	265 (1.4)	38 (1.1)	264 (1.4)
South Carolina	47 (3.7)	261 (1.9)	25 (3.3)	260 (2.1)	28 (2.6)	259 (2.5)
Tennessee	39 (3.9)	259 (1.8)	23 (3.7)	257 (3.1)	39 (3.2)	257 (2.6)
Texas	54 (3.7)	265 (2.0)	21 (2.8)	261 (3.3)	26 (3.1)	267 (2.3)
Utah	35 (2.4)	276 (1.4)	23 (2.3)	273 (1.9)	42 (2.6)	272 (1.6)
Virginia	38 (3.2)	271 (2.4)	22 (2.6)	269 (2.3)	39 (3.2)	263 (2.5)
West Virginia	31 (2.8)	260 (1.9)	25 (3.1)	261 (2.1)	44 (4.2)	256 (1.7)
Wisconsin	47 (4.8)	280 (2.8)	26 (5.0)	280 (3.0)!	27 (3.7)	274 (2.1)
Wyoming	32 (2.5)	276 (1.6)	25 (2.6)	277 (2.2)	44 (2.9)	272 (1.1)
TERRITORIES						
Guam	43 (1.2)	243 (1.7)	21 (1.1)	235 (2.0)	36 (0.8)	225 (1.5)
Virgin Islands	26 (1.0)	220 (2.4)	29 (1.3)	221 (1.9)	46 (1.3)	221 (1.3)

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TABLE 9.32 | Teachers' Reports on How Often They Use Projects, Portfolios or Presentations to Assess Student Progress

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Monthly		Once or Twice a Year		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (2.0)	218 (2.4)	27 (1.9)	220 (2.4)	52 (2.5)	215 (1.3)
Northeast	22 (3.4)	226 (5.9)!	27 (3.8)	226 (4.9)	50 (4.6)	215 (3.2)
Southeast	23 (4.0)	207 (4.4)	30 (3.2)	212 (4.1)	47 (4.5)	205 (2.0)
Central	23 (4.8)	225 (4.5)!	18 (4.6)	224 (4.7)!	59 (5.5)	223 (1.9)
West	17 (2.6)	214 (2.3)	33 (4.3)	222 (4.9)	50 (5.5)	216 (3.1)
STATES						
Alabama	24 (3.0)	205 (2.6)	26 (2.5)	208 (3.0)	50 (3.6)	208 (2.0)
Arizona	23 (3.0)	213 (2.4)	25 (2.6)	214 (2.0)	52 (3.6)	215 (1.6)
Arkansas	14 (2.3)	206 (3.7)	25 (2.9)	211 (1.9)	61 (3.5)	209 (1.4)
California	31 (3.6)	206 (3.1)	27 (3.1)	211 (2.7)	41 (3.7)	206 (2.2)
Colorado	33 (2.9)	221 (2.4)	26 (2.5)	220 (1.8)	41 (2.6)	219 (1.6)
Connecticut	29 (2.5)	229 (1.9)	20 (2.8)	231 (2.8)	51 (3.1)	226 (1.9)
Delaware	19 (0.9)	223 (1.8)	21 (1.0)	219 (1.4)	60 (0.8)	215 (1.2)
Dist. Columbia	57 (1.2)	191 (1.0)	17 (0.7)	196 (2.3)	26 (1.0)	186 (1.8)
Florida	25 (2.9)	211 (2.4)	28 (2.8)	215 (2.2)	46 (3.3)	212 (1.8)
Georgia	26 (2.8)	212 (2.9)	26 (2.5)	211 (1.9)	47 (3.0)	216 (1.8)
Hawaii	22 (2.3)	217 (2.2)	22 (2.6)	213 (2.9)	55 (2.9)	212 (1.5)
Idaho	15 (2.5)	220 (2.0)	28 (2.9)	219 (1.8)	57 (3.1)	221 (1.3)
Indiana	17 (3.2)	218 (2.8)	25 (3.1)	222 (2.1)	58 (3.6)	218 (1.3)
Iowa	24 (3.5)	230 (2.1)	25 (3.1)	231 (1.6)	52 (3.9)	228 (1.6)
Kentucky	39 (3.5)	214 (1.6)	25 (3.2)	214 (2.5)	36 (3.9)	212 (1.5)
Louisiana	25 (3.2)	201 (3.3)	27 (2.6)	199 (2.9)	48 (3.5)	206 (1.8)
Maine	24 (2.8)	232 (2.2)	24 (3.4)	229 (1.8)	52 (3.5)	231 (1.6)
Maryland	29 (3.3)	218 (2.5)	20 (2.3)	217 (3.3)	51 (3.3)	218 (1.9)
Massachusetts	23 (3.2)	228 (3.3)	23 (3.5)	229 (2.1)	54 (3.8)	225 (1.7)
Michigan	24 (3.4)	210 (4.2)	21 (2.4)	221 (2.6)	55 (3.3)	222 (2.2)
Minnesota	21 (2.5)	225 (2.3)	21 (3.0)	228 (2.5)	58 (3.1)	227 (1.8)
Mississippi	23 (3.0)	195 (2.6)	23 (3.0)	204 (2.1)	54 (3.6)	200 (1.7)
Missouri	18 (3.2)	219 (3.3)	27 (3.5)	223 (2.6)	55 (4.8)	222 (1.9)
Nebraska	16 (2.8)	233 (2.8)	30 (3.3)	228 (2.2)	55 (4.2)	221 (1.7)
New Hampshire	22 (3.0)	231 (2.8)	27 (2.8)	230 (2.0)	51 (3.6)	228 (1.3)
New Jersey	24 (3.6)	229 (4.2)	22 (3.4)	230 (2.2)	54 (4.2)	225 (2.0)
New Mexico	26 (3.0)	215 (2.3)	29 (3.0)	211 (2.2)	44 (3.1)	211 (1.7)
New York	23 (3.1)	215 (3.3)	27 (3.2)	219 (2.4)	51 (3.1)	217 (1.8)
North Carolina	27 (2.7)	213 (2.1)	27 (2.7)	212 (2.1)	47 (2.8)	212 (1.5)
North Dakota	16 (3.2)	228 (2.5)!	20 (2.7)	227 (1.8)	64 (3.6)	228 (0.9)
Ohio	20 (2.9)	219 (2.5)	22 (2.6)	219 (2.8)	58 (3.5)	216 (1.6)
Oklahoma	14 (2.2)	221 (2.8)	29 (3.3)	220 (2.2)	57 (3.3)	219 (1.3)
Pennsylvania	15 (2.3)	224 (3.2)	27 (2.9)	223 (2.3)	58 (3.2)	223 (1.9)
Rhode Island	12 (1.8)	212 (3.7)	21 (2.3)	220 (3.4)	67 (3.0)	212 (1.7)
South Carolina	21 (2.9)	209 (2.2)	29 (2.5)	211 (1.7)	50 (3.1)	213 (1.6)
Tennessee	19 (2.4)	205 (3.5)	25 (2.7)	211 (2.4)	56 (3.3)	211 (1.5)
Texas	28 (3.4)	219 (1.8)	28 (2.5)	219 (2.9)	44 (3.2)	215 (2.2)
Utah	20 (2.4)	229 (2.4)	20 (2.1)	223 (2.0)	60 (2.8)	222 (1.1)
Virginia	19 (2.2)	220 (2.9)	24 (2.0)	224 (2.9)	57 (2.7)	217 (1.8)
West Virginia	18 (2.9)	214 (2.6)	25 (3.2)	216 (2.4)	57 (3.7)	212 (1.5)
Wisconsin	21 (2.7)	232 (2.1)	27 (3.5)	229 (1.9)	51 (3.7)	226 (1.7)
Wyoming	22 (2.4)	224 (2.1)	28 (3.1)	225 (1.5)	51 (3.1)	224 (1.1)
TERRITORY						
Guam	37 (1.0)	192 (1.5)	18 (0.9)	192 (2.4)	45 (1.2)	191 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.32 | Teachers' Reports on How Often They Use Projects, Portfolios or Presentations to Assess Student Progress (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Monthly		Once or Twice a Year		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (2.2)	267 (2.5)	32 (2.6)	267 (1.6)	47 (2.8)	268 (1.8)
Northeast	26 (5.1)	264 (5.0)!	40 (8.2)	271 (3.6)!	35 (6.4)	266 (6.9)!
Southeast	19 (5.1)	269 (3.7)!	34 (5.8)	256 (2.4)	46 (6.2)	263 (2.0)
Central	18 (4.9)	278 (6.8)!	24 (4.5)	276 (3.0)!	58 (6.0)	273 (3.7)
West	22 (2.8)	262 (4.1)	30 (2.5)	269 (1.5)	48 (3.8)	269 (3.4)
STATES						
Alabama	26 (3.7)	252 (2.9)	32 (4.1)	253 (4.3)	42 (3.7)	250 (2.5)
Arizona	18 (2.7)	266 (2.7)	30 (2.8)	263 (2.5)	52 (3.2)	264 (2.0)
Arkansas	10 (2.1)	259 (2.7)!	27 (2.9)	257 (2.1)	63 (3.6)	254 (1.7)
California	26 (2.5)	257 (3.3)	29 (3.5)	264 (3.2)	45 (3.7)	262 (2.3)
Colorado	27 (3.4)	269 (2.6)	30 (2.9)	274 (2.3)	43 (3.6)	271 (2.0)
Connecticut	19 (1.8)	274 (2.3)	41 (3.6)	275 (3.0)	40 (3.6)	271 (2.1)
Delaware	24 (0.7)	261 (2.0)	32 (1.0)	263 (1.8)	44 (1.0)	263 (1.2)
Dist. Columbia	49 (1.4)	237 (1.3)	29 (1.3)	237 (2.2)	22 (1.0)	228 (2.1)
Florida	18 (2.1)	260 (2.7)	35 (3.1)	261 (2.3)	48 (3.5)	258 (2.2)
Georgia	18 (2.7)	258 (3.4)	32 (3.4)	261 (2.0)	50 (3.9)	256 (2.3)
Hawaii	21 (0.7)	261 (1.6)	29 (1.0)	263 (1.6)	49 (1.0)	252 (1.2)
Idaho	16 (1.8)	274 (1.8)	28 (3.1)	277 (1.8)	56 (3.1)	274 (1.3)
Indiana	16 (2.6)	272 (2.3)	33 (3.6)	269 (2.4)	51 (4.1)	270 (1.7)
Iowa	17 (3.9)	285 (2.8)!	27 (3.6)	284 (1.5)	56 (4.9)	282 (1.4)
Kentucky	29 (3.9)	264 (2.1)	36 (3.6)	265 (2.2)	35 (4.0)	259 (1.8)
Louisiana	20 (3.5)	250 (4.5)	25 (2.9)	252 (3.0)	55 (4.1)	249 (1.8)
Maine	18 (2.9)	281 (2.3)	42 (4.3)	280 (2.1)	40 (4.0)	275 (1.5)
Maryland	26 (3.7)	265 (3.9)	35 (3.4)	265 (2.6)	39 (3.9)	266 (2.5)
Massachusetts	17 (2.5)	277 (3.2)	29 (3.5)	272 (2.7)	55 (4.3)	271 (1.8)
Michigan	24 (3.2)	257 (4.3)	26 (3.1)	260 (3.5)	50 (3.3)	274 (2.0)
Minnesota	17 (2.3)	278 (2.2)	31 (3.8)	282 (2.0)	52 (4.2)	282 (1.8)
Mississippi	16 (2.8)	247 (4.8)	35 (4.2)	246 (2.7)	49 (4.0)	244 (1.9)
Missouri	13 (2.4)	269 (2.6)	32 (3.7)	274 (1.6)	55 (4.1)	270 (1.3)
Nebraska	13 (2.8)	271 (2.7)!	34 (3.7)	280 (1.8)	53 (3.3)	277 (1.7)
New Hampshire	36 (3.6)	276 (1.7)	36 (3.4)	280 (1.8)	27 (3.3)	277 (1.6)
New Jersey	15 (2.7)	274 (4.3)	33 (3.5)	272 (2.9)	52 (3.3)	270 (2.8)
New Mexico	20 (3.1)	258 (2.1)	33 (3.4)	257 (1.8)	47 (3.6)	262 (1.3)
New York	13 (2.5)	259 (7.6)	33 (3.9)	265 (2.7)	54 (4.4)	267 (3.1)
North Carolina	16 (2.5)	260 (3.8)	39 (2.9)	257 (1.8)	45 (3.6)	257 (2.0)
North Dakota	17 (2.4)	287 (2.3)	23 (3.6)	285 (1.9)	60 (3.9)	281 (1.6)
Ohio	14 (2.9)	267 (4.3)	31 (4.4)	265 (3.0)	55 (4.9)	272 (2.3)
Oklahoma	15 (2.9)	272 (2.7)!	26 (3.5)	268 (2.6)	59 (3.4)	266 (1.6)
Pennsylvania	14 (2.6)	267 (4.0)	25 (3.0)	266 (2.8)	61 (3.8)	273 (1.8)
Rhode Island	19 (0.7)	267 (1.9)	31 (1.1)	264 (1.2)	51 (1.1)	265 (1.2)
South Carolina	23 (3.1)	261 (2.6)	34 (3.4)	260 (2.6)	43 (3.8)	261 (1.8)
Tennessee	21 (3.1)	261 (2.9)	32 (3.5	260 (1.6)	47 (4.1)	255 (1.9)
Texas	26 (3.3)	264 (3.3)	32 (2.9)	268 (2.8)	43 (3.4)	262 (1.8)
Utah	12 (1.9)	276 (3.0)	31 (2.8)	276 (1.6)	57 (3.2)	272 (1.1)
Virginia	21 (2.7)	271 (3.1)	34 (3.4)	267 (1.6)	45 (3.6)	267 (1.8)
West Virginia	12 (2.0)	257 (2.7)	28 (3.4)	258 (2.5)	61 (3.6)	259 (1.3)
Wisconsin	22 (5.1)	278 (4.4)!	29 (3.7)	278 (1.8)	49 (5.1)	278 (2.6)
Wyoming	16 (1.9)	275 (1.5)	36 (2.6)	275 (1.5)	48 (2.8)	274 (1.3)
TERRITORIES						
Guam	26 (1.1)	241 (2.1)	42 (0.9)	241 (1.8)	32 (0.8)	223 (2.2)
Virgin Islands	25 (1.2)	218 (1.8)	21 (1.1)	218 (2.1)	54 (1.1)	223 (1.5)

TABLE 9.33 | Students' Reports on How Often They Take Mathematics Tests

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	9 (0.8)	197 (2.3)	30 (1.4)	212 (1.1)	61 (1.7)	223 (1.1)
Northeast	7 (1.1)	198 (6.4)!	25 (1.7)	213 (3.6)	68 (1.8)	229 (2.4)
Southeast	12 (2.1)	185 (2.7)	38 (2.1)	206 (1.6)	50 (3.3)	217 (2.6)
Central	6 (1.5)	205 (4.4)!	23 (3.4)	214 (2.4)	71 (4.0)	226 (2.5)
West	10 (1.1)	205 (4.4)	31 (3.0)	215 (2.1)	58 (3.6)	220 (2.1)
STATES						
Alabama	12 (1.2)	190 (2.4)	45 (1.5)	206 (1.7)	43 (2.0)	214 (2.1)
Arizona	11 (0.9)	200 (2.4)	31 (1.3)	212 (1.4)	58 (1.6)	218 (1.4)
Arkansas	10 (0.8)	191 (2.1)	36 (1.5)	206 (1.3)	54 (1.6)	214 (1.3)
California	12 (0.8)	188 (2.9)	31 (1.3)	204 (2.0)	57 (1.7)	213 (1.9)
Colorado	12 (1.0)	208 (2.1)	29 (1.0)	219 (1.7)	59 (1.4)	223 (1.1)
Connecticut	7 (0.7)	208 (3.8)	24 (1.4)	221 (2.2)	69 (1.8)	229 (1.2)
Delaware	10 (0.9)	197 (2.2)	30 (1.1)	210 (1.7)	60 (1.1)	223 (1.2)
Dist. Columbia	17 (0.7)	178 (1.9)	33 (0.9)	191 (1.3)	49 (1.0)	197 (0.9)
Florida	9 (0.8)	189 (2.8)	34 (1.7)	208 (1.6)	57 (2.0)	219 (1.6)
Georgia	8 (0.5)	190 (3.2)	33 (1.7)	208 (1.8)	59 (1.9)	221 (1.5)
Hawaii	12 (1.0)	194 (2.4)	28 (1.2)	209 (1.6)	60 (1.5)	219 (1.5)
Idaho	8 (0.8)	208 (2.7)	25 (1.3)	217 (1.4)	67 (1.7)	223 (1.0)
Indiana	8 (0.8)	203 (2.3)	24 (1.1)	212 (1.6)	68 (1.3)	224 (1.1)
Iowa	7 (0.6)	213 (2.7)	19 (1.2)	223 (2.0)	74 (1.4)	232 (1.1)
Kentucky	7 (0.8)	196 (2.7)	28 (1.4)	209 (1.4)	65 (1.6)	218 (1.1)
Louisiana	19 (1.4)	189 (2.5)	58 (1.7)	205 (1.3)	23 (1.9)	210 (2.3)
Maine	6 (0.9)	226 (3.8)	20 (1.4)	227 (1.7)	74 (1.7)	233 (1.2)
Maryland	7 (0.6)	191 (3.2)	29 (1.7)	210 (2.1)	65 (1.9)	222 (1.4)
Massachusetts	8 (1.0)	213 (4.4)	27 (1.6)	222 (1.8)	65 (2.0)	229 (1.4)
Michigan	10 (0.9)	200 (2.9)	24 (1.5)	212 (2.3)	66 (1.7)	224 (1.8)
Minnesota	6 (0.5)	209 (2.9)	20 (1.4)	220 (1.8)	74 (1.5)	231 (1.0)
Mississippi	14 (1.0)	184 (2.1)	50 (1.6)	202 (1.3)	35 (1.7)	204 (1.6)
Missouri	7 (0.8)	202 (2.6)	23 (1.5)	215 (2.2)	70 (1.7)	225 (1.3)
Nebraska	5 (1.0)	206 (3.9)	19 (1.4)	215 (2.0)	75 (1.7)	228 (1.3)
New Hampshire	4 (0.7)	214 (2.6)	23 (1.2)	225 (1.6)	73 (1.5)	231 (1.3)
New Jersey	7 (0.6)	201 (3.2)	30 (1.7)	219 (1.9)	62 (1.9)	233 (1.5)
New Mexico	14 (1.4)	202 (2.8)	28 (1.5)	210 (1.7)	58 (1.7)	216 (1.8)
New York	8 (0.7)	198 (3.2)	32 (2.0)	214 (1.6)	60 (2.3)	222 (1.6)
North Carolina	10 (0.6)	190 (2.2)	35 (1.4)	209 (1.8)	54 (1.5)	217 (1.4)
North Dakota	4 (0.7)	211 (3.8)	17 (1.6)	219 (1.7)	79 (1.9)	230 (0.8)
Ohio	9 (0.8)	201 (3.0)	30 (1.6)	213 (1.8)	61 (1.9)	222 (1.3)
Oklahoma	9 (0.7)	204 (2.2)	28 (1.2)	218 (1.5)	63 (1.4)	222 (1.1)
Pennsylvania	6 (0.6)	197 (3.2)	32 (1.5)	217 (1.6)	62 (1.8)	229 (1.5)
Rhode Island	7 (0.8)	197 (3.9)	27 (1.6)	207 (2.1)	65 (2.0)	219 (1.5)
South Carolina	12 (0.9)	196 (1.5)	43 (1.4)	209 (1.4)	45 (1.8)	218 (1.4)
Tennessee	10 (0.7)	195 (2.8)	38 (1.6)	208 (1.7)	52 (1.8)	214 (1.4)
Texas	11 (0.9)	205 (2.2)	37 (2.0)	215 (1.7)	52 (2.2)	221 (1.5)
Utah	7 (0.7)	210 (2.5)	23 (1.5)	222 (1.6)	69 (1.7)	225 (1.1)
Virginia	9 (0.8)	198 (2.6)	30 (1.5)	213 (1.8)	61 (1.7)	227 (1.4)
West Virginia	7 (0.7)	198 (2.5)	26 (1.3)	207 (1.6)	66 (1.4)	218 (1.1)
Wisconsin	6 (0.5)	210 (3.1)	19 (1.3)	221 (2.0)	75 (1.4)	231 (1.0)
Wyoming	12 (1.2)	215 (2.3)	21 (1.2)	221 (1.4)	67 (1.9)	227 (1.0)
TERRITORY						
Guam	18 (1.0)	180 (2.0)	32 (1.0)	193 (1.6)	50 (1.2)	194 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.33 | Students' Reports on How Often They Take Mathematics Tests (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (0.4)	246 (2.3)	55 (1.4)	264 (1.1)	38 (1.4)	274 (1.4)
Northeast	5 (1.1)	252 (7.9)	55 (3.9)	265 (3.6)	40 (4.5)	274 (3.2)
Southeast	9 (0.8)	238 (3.4)	63 (2.6)	258 (1.8)	27 (2.7)	264 (2.8)
Central	6 (0.5)	252 (5.4)	44 (2.5)	268 (2.4)	51 (2.5)	279 (2.3)
West	6 (0.7)	248 (4.3)	59 (2.1)	266 (2.2)	35 (2.1)	272 (3.3)
STATES						
Alabama	10 (0.8)»	235 (3.0)	74 (1.4)«	252 (1.6)	16 (1.3)	260 (2.9)
Arizona	5 (0.5)>	248 (4.4)	57 (2.4)«	264 (1.4)	39 (2.6)»	268 (1.8)
Arkansas	9 (0.9)»	237 (3.1)	65 (1.7)«	256 (1.4)	26 (1.6)	260 (1.8)
California	5 (0.6)>	240 (4.8)	49 (1.9)«	255 (1.8)	46 (1.8)»	268 (2.1)
Colorado	5 (0.5)>	256 (4.7)	48 (2.1)«	270 (1.5)	47 (2.2)»	275 (1.5)>
Connecticut	6 (0.5)»	255 (3.5)	49 (2.2)«	269 (2.0)	45 (2.4)»	280 (1.4)
Delaware	8 (0.8)»	246 (3.4)	56 (1.5)«	262 (1.1)	36 (1.2)»	266 (1.8)
Dist. Columbia	17 (1.1)»	225 (2.1)	54 (1.1)«	236 (1.1)	28 (1.2)»	237 (2.6)
Florida	9 (0.8)»	244 (3.9)	65 (1.6)«	259 (1.6)	26 (1.5)>	265 (2.0)
Georgia	9 (0.9)>	244 (2.9)	62 (1.3)«	258 (1.2)	29 (1.7)>	265 (1.9)
Hawaii	8 (0.6)	239 (3.5)	52 (1.1)«	257 (1.2)»	40 (1.0)»	261 (1.2)
Idaho	4 (0.4)»	257 (3.5)	51 (1.7)«	273 (0.9)	45 (1.7)»	277 (1.1)
Indiana	5 (0.6)>	250 (4.9)	51 (2.3)«	266 (1.4)	44 (2.3)>	276 (1.5)
Iowa	3 (0.5)	265 (4.8)	44 (2.4)	282 (1.5)>	53 (2.6)	284 (1.1)>
Kentucky	4 (0.4)>	242 (4.1)	50 (1.5)«	259 (1.4)	46 (1.6)»	267 (1.4)
Louisiana	13 (1.5)»	232 (2.6)	79 (1.4)«	251 (1.7)	8 (1.0)	259 (3.6)
Maine	4 (0.5)	269 (4.1)	47 (1.8)	276 (1.5)	49 (1.9)	280 (1.0)
Maryland	7 (0.7)»	234 (3.6)	55 (1.4)«	262 (1.4)	38 (1.5)»	274 (1.6)
Massachusetts	5 (0.7)	266 (4.2)	63 (1.7)	271 (1.2)	32 (1.8)	276 (1.5)
Michigan	5 (0.7)	248 (4.3)	55 (1.9)	263 (1.4)	41 (2.1)	274 (1.9)
Minnesota	3 (0.4)>	261 (5.3)	47 (1.9)<	280 (1.1)>	50 (2.0)	285 (1.4)»
Mississippi	11 (1.0)	231 (2.3)	76 (1.5)	247 (1.3)	13 (1.5)	248 (2.6)
Missouri	5 (0.5)	252 (3.8)	44 (2.1)	267 (1.5)	51 (2.1)	276 (1.4)
Nebraska	4 (0.4)>	249 (4.5)	43 (2.1)«	275 (1.6)	54 (2.1)»	281 (1.3)
New Hampshire	3 (0.4)>	264 (4.7)	57 (1.8)<	276 (1.2)	39 (2.0)>	281 (1.4)>
New Jersey	6 (0.8)>	247 (4.4)	56 (2.0)«	269 (1.8)	38 (2.1)»	279 (1.7)
New Mexico	7 (0.7)»	248 (3.3)	59 (1.7)«	257 (1.2)	35 (1.8)>	264 (1.3)
New York	6 (0.8)>	245 (5.2)	59 (1.6)«	265 (2.1)	35 (1.8)»	271 (2.6)
North Carolina	10 (0.9)>	242 (2.4)	62 (1.7)«	257 (1.4)»	28 (1.8)	265 (1.6)»
North Dakota	4 (0.5)	278 (3.4)	57 (2.2)	282 (1.2)	39 (2.3)	284 (1.8)
Ohio	6 (0.9)>	253 (4.2)	57 (2.1)«	266 (1.8)	37 (2.1)>	272 (1.8)
Oklahoma	4 (0.5)>	247 (4.5)	54 (2.2)<	267 (1.6)>	42 (2.3)	270 (1.4)
Pennsylvania	4 (0.4)»	251 (4.2)	56 (1.8)<	269 (1.6)	40 (1.9)	276 (1.8)
Rhode Island	6 (0.6)»	249 (4.1)	63 (1.4)«	263 (1.1)>	31 (1.4)»	273 (1.4)
South Carolina	11 (0.7)	244 (1.9)	68 (1.1)	260 (1.2)	21 (1.1)	270 (2.0)
Tennessee	9 (0.9)	245 (2.2)	67 (1.6)	258 (1.6)	25 (1.8)	264 (1.8)
Texas	7 (0.7)»	243 (2.9)	63 (1.7)«	260 (1.5)	30 (1.7)>	275 (2.1)>
Utah	4 (0.5)	262 (4.4)	42 (1.5)	270 (1.2)	54 (1.5)	278 (0.9)
Virginia	7 (0.5)»	249 (2.8)>	64 (1.4)«	267 (1.3)	29 (1.4)>	273 (2.1)
West Virginia	7 (0.9)>	248 (3.9)	52 (2.0)«	257 (1.2)	41 (2.1)>	262 (1.3)
Wisconsin	4 (0.5)>	256 (4.3)	45 (2.1)	277 (1.8)	51 (2.2)	280 (1.6)
Wyoming	4 (0.5)»	263 (3.2)	50 (1.6)<	273 (1.1)	46 (1.7)	277 (1.0)>
TERRITORIES						
Guam	9 (0.8)»	216 (3.3)	55 (1.1)«	238 (1.6)»	36 (1.1)»	235 (1.9)
Virgin Islands	17 (0.9)»	211 (1.8)>	70 (1.3)«	222 (1.4)	13 (0.8)	234 (3.2)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 9.33 | Students' Reports on How Often They Take Mathematics Tests (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	4 (0.5)	240 (3.1)	66 (2.3)	261 (1.7)	30 (2.2)	267 (1.8)
Northeast	5 (1.2)	*** (***)	64 (9.2)	267 (5.3)	30 (9.4)	278 (3.0)
Southeast	5 (1.4)	*** (***)	76 (2.5)	257 (2.7)	19 (2.5)	253 (4.8)
Central	4 (0.9)	*** (***)	61 (3.9)	263 (2.8)	35 (3.5)	271 (2.6)
West	4 (0.7)	*** (***)	62 (3.2)	260 (3.1)	34 (2.7)	265 (3.0)
STATES						
Alabama	5 (0.7)	227 (4.0)	80 (1.2)	255 (1.1)	14 (1.1)	252 (2.5)
Arizona	3 (0.4)	247 (6.5)	70 (1.5)	259 (1.4)	27 (1.6)	264 (1.7)
Arkansas	5 (0.6)	234 (3.1)	73 (1.6)	256 (1.0)	22 (1.6)	263 (1.4)
California	3 (0.4)	240 (6.3)	63 (1.7)	255 (1.4)	34 (1.7)	262 (1.7)
Colorado	2 (0.4)	252 (4.9)	61 (1.7)	267 (1.2)	37 (1.8)	270 (1.3)
Connecticut	2 (0.4)	242 (5.2)	64 (1.7)	268 (1.2)	34 (1.7)	275 (1.4)
Delaware	3 (0.4)	240 (4.2)	68 (1.1)	260 (1.1)	28 (0.9)	267 (2.1)
Dist. Columbia	11 (0.6)	222 (2.9)	71 (0.9)	233 (1.1)	18 (0.7)	232 (2.2)
Florida	6 (0.7)	243 (3.4)	74 (1.4)	255 (1.3)	21 (1.2)	263 (2.0)
Georgia	6 (0.7)	238 (4.0)	72 (1.4)	259 (1.4)	22 (1.5)	265 (2.0)
Hawaii	7 (0.5)	235 (3.4)	63 (0.8)	250 (1.1)	30 (0.8)	258 (1.3)
Idaho	2 (0.3)	*** (***)	61 (1.3)	271 (1.1)	37 (1.3)	274 (1.2)
Indiana	2 (0.4)	*** (***)	63 (1.9)	266 (1.3)	34 (1.9)	272 (1.3)
Iowa	2 (0.4)	*** (***)	51 (2.1)	277 (1.5)	47 (2.2)	279 (1.2)
Kentucky	2 (0.4)	241 (4.9)	65 (1.7)	256 (1.2)	33 (1.8)	262 (1.8)
Louisiana	7 (0.9)	230 (3.7)	85 (1.1)	247 (1.4)	8 (0.8)	253 (2.9)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	3 (0.4)	234 (5.4)	70 (1.3)	260 (1.6)	27 (1.3)	267 (2.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	3 (0.6)	246 (5.3)	61 (1.9)	262 (1.4)	37 (2.0)	271 (1.7)
Minnesota	2 (0.3)	*** (***)	54 (2.2)	275 (1.2)	44 (2.3)	277 (1.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	2 (0.3)	*** (***)	55 (1.9)	274 (1.2)	43 (1.8)	279 (1.5)
New Hampshire	2 (0.3)	*** (***)	64 (1.0)	274 (1.1)	34 (1.1)	275 (1.3)
New Jersey	4 (0.5)	244 (4.9)	69 (1.4)	269 (1.3)	27 (1.4)	275 (1.6)
New Mexico	2 (0.3)	239 (5.3)	69 (1.2)	255 (0.8)	29 (1.1)	264 (1.5)
New York	3 (0.5)	238 (5.3)	72 (1.2)	260 (1.4)	25 (1.2)	268 (2.2)
North Carolina	6 (0.6)	234 (3.6)	70 (1.1)	250 (1.1)	24 (1.1)	255 (1.9)
North Dakota	3 (0.6)	*** (***)	60 (2.0)	282 (1.5)	38 (1.9)	282 (1.7)
Ohio	3 (0.5)	241 (4.5)	70 (1.8)	264 (1.2)	27 (1.9)	268 (1.6)
Oklahoma	2 (0.3)	*** (***)	63 (2.0)	262 (1.5)	35 (2.0)	267 (1.6)
Pennsylvania	2 (0.4)	*** (***)	64 (2.1)	264 (1.7)	34 (2.1)	272 (2.1)
Rhode Island	3 (0.3)	247 (3.7)	75 (1.2)	259 (0.7)	21 (1.1)	269 (1.6)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	3 (0.5)	239 (6.4)	74 (1.8)	257 (1.5)	23 (1.8)	266 (2.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	4 (0.5)	239 (3.4)	72 (1.3)	264 (1.6)	24 (1.3)	269 (2.5)
West Virginia	4 (0.5)	245 (5.8)	61 (1.3)	256 (1.1)	35 (1.4)	258 (1.4)
Wisconsin	3 (0.3)	249 (4.1)	53 (2.4)	274 (1.6)	45 (2.6)	276 (1.5)
Wyoming	2 (0.3)	*** (***)	57 (1.2)	273 (0.7)	41 (1.2)	273 (1.2)
TERRITORIES						
Guam	6 (0.7)	218 (4.2)	72 (1.4)	231 (0.9)	22 (1.3)	239 (2.2)
Virgin Islands	9 (0.9)	202 (2.5)	81 (1.3)	220 (0.9)	10 (0.9)	226 (3.2)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 9.34 **Teachers' Reports on How Often They Ask Students to Write a Few Sentences About How to Solve a Mathematics Problem and Make up Mathematics Problems for Other Students to Solve, Grades 4 and 8**

Write a few sentences about how you solved a mathematics problem	About how often do students in this class do the following types of activities for mathematics class?					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	19 (2.0)	219 (2.3)	36 (1.9)	218 (1.7)	45 (2.3)	218 (1.2)
Grade 8	21 (2.1)	273 (2.3)	38 (2.5)	267 (1.6)	41 (2.5)	268 (1.7)
Make up mathematics problems for other students to solve	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	21 (2.1)	217 (1.8)	47 (2.2)	221 (1.4)	31 (2.2)	216 (1.6)
Grade 8	8 (1.2)	268 (3.6)	34 (2.3)	269 (2.1)	59 (2.4)	269 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.35 Students' Reports on the Frequency with Which They Write Sentences About How to Solve a Mathematics Problems and Make up Mathematics Problems for Other Students to Solve, Grades 8 and 12

	In Mathematics Class, How Often Do You Do the Following?					
Write a few sentences about how you solved a mathematics problem	**At Least Weekly**		**Less than Once a Week**		**Never or Hardly Ever**	
	Percent of Students	**Average Proficiency**	**Percent of Students**	**Average Proficiency**	**Percent of Students**	**Average Proficiency**
Grade 8	21 (0.8)	258 (1.3)	18 (0.7)	270 (1.4)	62 (1.1)	271 (1.1)
Grade 12 All Students	14 (0.5)	297 (1.9)	15 (0.6)	304 (1.4)	71 (0.8)	299 (0.9)
Grade 12 Taking Math	15 (0.8)	298 (2.3)	17 (0.9)	310 (1.6)	68 (1.0)	308 (1.0)
Make up mathematics problems for other students to solve	**At Least Weekly**		**Less than Once a Week**		**Never or Hardly Ever**	
	Percent of Students	**Average Proficiency**	**Percent of Students**	**Average Proficiency**	**Percent of Students**	**Average Proficiency**
Grade 8	8 (0.4)	243 (1.9)	15 (0.7)	268 (1.4)	77 (0.8)	271 (1.0)
Grade 12 All Students	6 (0.3)	278 (2.6)	10 (0.5)	296 (1.8)	84 (0.6)	300 (0.9)
Grade 12 Taking Math	5 (0.4)	283 (3.7)	9 (0.5)	304 (2.2)	86 (0.8)	308 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. These questions were not asked at grade 4.

TABLE 9.36 | Teachers' Reports on How Often They Ask Students to Write a Few Sentences About How to Solve a Mathematics Problem

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	19 (2.1)	218 (2.6)	37 (2.2)	217 (2.0)	43 (2.4)	216 (1.5)
Northeast	21 (5.6)	226 (5.5)!	41 (6.2)	220 (4.1)	38 (7.0)	218 (3.5)!
Southeast	19 (3.0)	206 (4.2)	46 (5.1)	209 (3.7)	35 (3.7)	206 (2.1)
Central	13 (3.4)	224 (4.6)!	25 (3.5)	223 (3.3)	62 (5.4)	224 (2.4)
West	25 (5.3)	218 (4.8)!	38 (2.8)	223 (3.2)	37 (4.0)	212 (2.3)
STATES						
Alabama	29 (3.1)	205 (3.3)	41 (4.0)	211 (2.3)	31 (3.4)	205 (2.4)
Arizona	22 (2.6)	214 (2.6)	35 (2.5)	217 (1.8)	44 (3.4)	212 (1.6)
Arkansas	11 (2.2)	210 (2.3)	32 (3.2)	207 (1.6)	56 (3.7)	210 (1.6)
California	28 (3.1)	212 (3.2)	38 (3.1)	205 (2.2)	33 (3.8)	206 (2.4)
Colorado	25 (2.6)	226 (2.3)	39 (3.1)	217 (1.5)	36 (2.7)	219 (2.0)
Connecticut	29 (2.8)	228 (1.7)	38 (2.8)	229 (2.6)	33 (3.0)	226 (2.1)
Delaware	17 (0.8)	220 (1.8)	30 (0.9)	219 (1.3)	53 (1.0)	216 (1.2)
Dist. Columbia	42 (1.0)	191 (1.2)	31 (0.8)	188 (1.4)	27 (0.7)	190 (1.8)
Florida	26 (2.5)	215 (1.9)	34 (2.5)	211 (2.1)	40 (2.9)	212 (2.0)
Georgia	26 (2.8)	210 (2.8)	37 (3.3)	217 (1.9)	36 (2.4)	214 (2.1)
Hawaii	22 (2.7)	217 (2.6)	40 (3.2)	215 (1.8)	38 (3.0)	209 (2.1)
Idaho	16 (2.7)	226 (2.1)	34 (3.8)	220 (1.5)	50 (3.6)	219 (1.3)
Indiana	9 (2.0)	217 (4.5)!	33 (3.4)	220 (1.5)	57 (3.7)	219 (1.4)
Iowa	17 (2.4)	231 (3.2)	39 (3.6)	230 (1.6)	44 (3.8)	228 (1.2)
Kentucky	34 (3.0)	213 (2.0)	39 (3.2)	217 (1.6)	27 (3.4)	208 (2.1)
Louisiana	29 (2.8)	201 (3.0)	44 (3.4)	203 (2.3)	28 (3.4)	203 (2.3)
Maine	30 (3.9)	235 (2.2)	36 (3.9)	229 (1.7)	34 (3.0)	228 (2.0)
Maryland	49 (3.3)	218 (2.4)	36 (2.9)	220 (1.9)	15 (2.2)	214 (3.0)
Massachusetts	26 (3.2)	224 (3.1)	33 (2.8)	231 (1.7)	40 (3.6)	225 (1.9)
Michigan	24 (3.3)	218 (3.6)	36 (3.4)	218 (3.0)	40 (3.3)	221 (2.2)
Minnesota	21 (3.1)	228 (2.5)	36 (3.3)	226 (1.9)	43 (3.3)	228 (1.5)
Mississippi	22 (3.2)	197 (1.9)	33 (3.1)	201 (2.3)	45 (3.6)	202 (2.1)
Missouri	19 (2.6)	219 (3.2)	41 (3.7)	222 (2.2)	40 (3.7)	223 (1.5)
Nebraska	22 (3.4)	233 (2.7)	35 (3.3)	226 (2.0)	43 (4.2)	220 (1.7)
New Hampshire	19 (2.4)	229 (3.0)	39 (3.3)	232 (1.4)	42 (3.4)	227 (1.5)
New Jersey	30 (3.5)	225 (2.3)	45 (4.0)	228 (2.3)	26 (3.1)	226 (2.9)
New Mexico	21 (2.8)	213 (2.3)	42 (3.9)	213 (2.0)	37 (3.5)	211 (2.1)
New York	26 (2.9)	215 (2.7)	39 (2.8)	218 (2.1)	34 (3.0)	218 (2.1)
North Carolina	20 (2.6)	211 (2.3)	36 (2.7)	214 (1.7)	44 (2.6)	212 (1.4)
North Dakota	15 (3.1)	227 (2.3)	21 (2.9)	229 (2.4)	64 (3.8)	228 (1.1)
Ohio	18 (2.8)	222 (3.0)	36 (3.2)	219 (2.2)	46 (3.7)	214 (1.7)
Oklahoma	14 (2.0)	221 (2.4)	35 (3.1)	219 (1.7)	51 (3.2)	220 (1.3)
Pennsylvania	20 (2.5)	228 (2.9)	38 (2.9)	222 (2.2)	42 (3.3)	221 (2.1)
Rhode Island	16 (2.9)	215 (3.5)	30 (2.7)	218 (2.3)	54 (3.5)	212 (2.1)
South Carolina	21 (2.4)	214 (2.1)	36 (2.7)	212 (1.9)	43 (2.8)	210 (1.8)
Tennessee	17 (2.4)	206 (2.9)	37 (2.8)	212 (1.9)	46 (3.3)	209 (1.7)
Texas	31 (3.3)	217 (2.7)	42 (3.5)	219 (2.0)	28 (3.1)	216 (2.5)
Utah	21 (2.7)	227 (1.9)	34 (2.8)	222 (1.6)	45 (3.5)	222 (1.5)
Virginia	21 (2.6)	219 (3.3)	37 (3.0)	220 (2.2)	42 (3.0)	219 (2.1)
West Virginia	18 (3.3)	218 (2.9)	24 (2.6)	213 (2.4)	58 (4.4)	212 (1.3)
Wisconsin	29 (3.0)	229 (2.3)	37 (3.3)	227 (2.0)	34 (3.7)	229 (1.5)
Wyoming	23 (2.8)	228 (2.0)	38 (3.3)	225 (1.6)	39 (3.5)	222 (1.2)
TERRITORY						
Guam	24 (0.8)	198 (2.0)	29 (1.0)	192 (1.5)	47 (1.2)	188 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.36 | Teachers' Reports on How Often They Ask Students to Write a Few Sentences About How to Solve a Mathematics Problem (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	22 (2.3)	273 (2.6)	38 (2.7)	265 (1.7)	41 (2.6)	267 (1.9)
Northeast	30 (6.8)	272 (5.9)!	40 (5.5)	260 (3.3)	30 (6.7)	273 (6.4)!
Southeast	20 (4.5)	269 (4.6)!	41 (5.6)	260 (2.9)	39 (3.9)	260 (2.0)
Central	11 (2.9)	275(11.9)!	42 (5.6)	278 (1.8)	47 (6.2)	272 (4.4)
West	25 (4.2)	276 (2.7)	31 (4.9)	263 (3.9)	44 (4.3)	266 (3.1)
STATES						
Alabama	18 (3.5)	255 (3.8)!	35 (4.5)	252 (3.9)	47 (4.3)	250 (2.3)
Arizona	28 (3.6)	269 (2.3)	40 (3.8)	263 (1.8)	32 (3.8)	262 (3.2)
Arkansas	12 (2.1)	254 (3.7)	20 (2.9)	258 (3.1)	68 (3.4)	255 (1.7)
California	27 (3.4)	259 (3.4)	38 (2.5)	263 (2.5)	35 (3.2)	260 (2.7)
Colorado	27 (3.0)	272 (2.2)	35 (2.5)	274 (1.7)	37 (3.1)	268 (2.2)
Connecticut	24 (3.2)	280 (4.1)	33 (3.2)	274 (3.0)	42 (4.0)	269 (2.1)
Delaware	22 (0.8)	267 (2.4)	29 (0.9)	259 (2.0)	50 (0.9)	262 (1.3)
Dist. Columbia	42 (1.0)	235 (1.4)	37 (1.1)	237 (1.9)	21 (0.9)	230 (2.0)
Florida	22 (3.0)	265 (3.3)	30 (2.7)	259 (2.2)	48 (3.7)	258 (2.4)
Georgia	22 (3.4)	258 (3.4)	40 (3.2)	258 (1.9)	38 (3.0)	260 (2.5)
Hawaii	18 (0.7)	267 (1.9)	40 (1.0)	260 (1.4)	42 (1.1)	250 (1.2)
Idaho	20 (1.6)	281 (1.5)	31 (2.8)	274 (1.8)	49 (2.8)	273 (1.0)
Indiana	15 (2.5)	276 (3.6)	26 (3.4)	271 (3.0)	58 (3.6)	267 (1.7)
Iowa	18 (3.1)	285 (2.3)	39 (4.5)	284 (1.8)	44 (4.8)	281 (1.6)
Kentucky	24 (3.0)	267 (2.7)	45 (3.4)	263 (1.5)	32 (3.4)	258 (2.2)
Louisiana	25 (3.2)	249 (3.6)	31 (3.1)	251 (3.1)	44 (3.6)	250 (2.0)
Maine	20 (3.7)	280 (2.9)	37 (4.3)	280 (1.7)	44 (3.8)	276 (1.8)
Maryland	28 (3.4)	269 (3.3)	47 (3.8)	266 (2.1)	25 (3.3)	262 (3.[illegible])
Massachusetts	17 (2.7)	276 (3.5)	33 (3.3)	273 (2.7)	51 (4.2)	270 (1.7)
Michigan	30 (3.4)	264 (4.0)	34 (3.2)	268 (2.5)	36 (3.3)	268 (2.7)
Minnesota	27 (2.7)	286 (1.8)	26 (3.0)	281 (3.0)	47 (3.5)	279 (1.6)
Mississippi	25 (3.3)	245 (3.6)	41 (3.8)	243 (2.1)	35 (4.1)	249 (1.6)
Missouri	16 (2.2)	275 (2.7)	27 (3.4)	268 (2.3)	57 (3.8)	271 (1.5)
Nebraska	16 (3.6)	276 (3.1)!	47 (4.0)	278 (1.7)	37 (4.3)	277 (2.1)
New Hampshire	22 (3.3)	282 (2.1)	45 (3.7)	276 (1.4)	32 (3.8)	276 (2.0)
New Jersey	31 (4.3)	276 (2.6)	41 (4.5)	268 (3.4)	28 (3.5)	272 (3.3)
New Mexico	15 (2.2)	264 (2.3)	30 (2.7)	260 (1.4)	56 (3.3)	258 (1.6)
New York	24 (3.1)	261 (3.8)	25 (2.9)	260 (4.6)	51 (3.7)	270 (2.6)
North Carolina	19 (2.5)	265 (3.1)	38 (3.1)	256 (2.0)	43 (3.3)	255 (1.8)
North Dakota	15 (2.8)	282 (3.4)!	27 (3.1)	282 (1.8)	58 (3.9)	283 (1.3)
Ohio	19 (3.6)	273 (4.0)!	28 (3.5)	269 (3.4)	53 (4.8)	269 (2.2)
Oklahoma	13 (2.8)	266 (4.8)!	28 (2.9)	267 (2.2)	59 (3.4)	268 (1.8)
Pennsylvania	18 (2.6)	272 (3.2)	35 (3.0)	272 (2.0)	46 (3.3)	269 (2.6)
Rhode Island	27 (1.0)	268 (1.7)	39 (0.8)	266 (1.2)	35 (1.0)	262 (1.6)
South Carolina	22 (2.8)	264 (2.2)	36 (3.2)	264 (2.6)	42 (3.2)	256 (2.0)
Tennessee	21 (3.7)	261 (3.4)	30 (3.3)	259 (2.1)	49 (4.1)	256 (2.2)
Texas	25 (3.4)	266 (3.1)	39 (3.4)	264 (2.1)	35 (3.3)	264 (2.0)
Utah	25 (2.0)	278 (1.7)	27 (2.5)	273 (1.6)	48 (2.6)	272 (1.2)
Virginia	19 (2.9)	270 (3.5)	30 (2.7)	267 (2.6)	50 (3.4)	267 (1.7)
West Virginia	14 (2.2)	265 (3.3)	27 (2.7)	261 (2.0)	59 (2.9)	256 (1.3)
Wisconsin	25 (4.6)	285 (3.3)!	32 (4.2)	277 (2.8)	43 (5.2)	275 (2.4)
Wyoming	13 (1.9)	284 (2.7)	28 (2.3)	274 (1.9)	59 (2.6)	273 (1.1)
TERRITORIES						
Guam	14 (0.9)	270 (3.3)	38 (1.1)	234 (1.7)	48 (1.0)	226 (1.5)
Virgin Islands	2 (0.3)	*** (***)	29 (1.2)	230 (2.0)	69 (1.1)	213 (1.3)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 9.37 | Students' Reports on How Often They Write a Few Sentences About How to Solve a Mathematics Problem

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	21 (0.8)	257 (1.5)	18 (0.7)	269 (1.6)	61 (1.2)	269 (1.2)
Northeast	21 (2.5)	254 (3.1)	17 (1.1)	270 (2.5)	62 (2.5)	273 (3.5)
Southeast	19 (1.2)	247 (3.2)	18 (1.8)	261 (2.0)	63 (2.2)	261 (1.5)
Central	21 (1.1)	267 (3.6)	17 (1.4)	275 (3.8)	62 (2.0)	275 (2.0)
West	23 (1.9)	258 (2.4)	19 (1.1)	269 (3.2)	59 (2.6)	270 (2.9)
STATES						
Alabama	22 (1.4)	242 (3.5)	13 (0.8)	255 (2.4)	64 (1.7)	254 (1.5)
Arizona	20 (1.1)	257 (1.9)	19 (1.0)	268 (1.8)	61 (1.4)	266 (1.4)
Arkansas	17 (0.9)	243 (2.3)	15 (1.0)	259 (2.0)	69 (1.4)	258 (1.3)
California	28 (1.9)	253 (2.8)	20 (1.1)	261 (2.4)	52 (2.4)	264 (1.6)
Colorado	24 (1.6)	268 (2.0)	21 (1.1)	274 (1.5)	55 (1.8)	273 (1.2)
Connecticut	21 (1.5)	265 (3.1)	18 (1.0)	280 (2.3)	61 (1.9)	274 (1.2)
Delaware	20 (1.0)	253 (2.6)	17 (1.0)	265 (2.3)	64 (1.5)	265 (1.1)
Dist. Columbia	39 (1.1)	227 (1.4)	18 (1.0)	240 (2.5)	43 (1.2)	239 (1.4)
Florida	20 (1.1)	250 (2.8)	16 (0.7)	260 (1.9)	64 (1.4)	262 (1.6)
Georgia	23 (1.1)	248 (1.7)	16 (0.8)	263 (2.2)	61 (1.6)	262 (1.3)
Hawaii	31 (1.0)	252 (1.5)	18 (0.7)	262 (2.0)	51 (0.9)	258 (1.1)
Idaho	19 (1.1)	270 (1.8)	15 (0.8)	276 (1.3)	66 (1.3)	275 (0.9)
Indiana	16 (1.4)	263 (2.3)	15 (1.2)	268 (2.0)	68 (2.3)	271 (1.2)
Iowa	16 (1.4)	278 (1.8)	19 (1.2)	285 (1.7)	66 (2.2)	283 (1.1)
Kentucky	29 (1.6)	257 (2.0)	24 (1.1)	264 (1.5)	48 (1.8)	263 (1.4)
Louisiana	25 (1.5)	236 (1.9)	15 (0.7)	254 (2.2)	60 (1.6)	254 (1.8)
Maine	22 (1.6)	276 (1.7)	22 (0.9)	279 (1.7)	57 (1.8)	279 (1.2)
Maryland	24 (1.3)	257 (2.4)	22 (1.0)	268 (1.7)	54 (1.5)	266 (1.7)
Massachusetts	17 (1.1)	269 (2.1)	18 (1.0)	275 (2.1)	65 (1.5)	273 (1.2)
Michigan	26 (1.6)	260 (2.0)	19 (0.9)	272 (2.2)	55 (1.9)	268 (1.6)
Minnesota	25 (1.3)	281 (1.7)	20 (1.1)	285 (2.2)	55 (1.8)	281 (1.1)
Mississippi	27 (1.4)	235 (2.1)	13 (0.8)	245 (2.1)	60 (1.6)	251 (1.4)
Missouri	20 (1.3)	261 (2.1)	17 (0.8)	275 (1.8)	63 (1.5)	272 (1.3)
Nebraska	17 (1.4)	271 (1.9)	18 (1.0)	279 (1.8)	65 (2.0)	278 (1.2)
New Hampshire	18 (1.3)	275 (1.5)	20 (0.9)	279 (1.7)	62 (1.6)	278 (1.2)
New Jersey	28 (1.8)	264 (2.5)	20 (1.4)	278 (2.3)	51 (2.1)	273 (1.6)
New Mexico	18 (1.1)	252 (1.6)	15 (0.8)	257 (1.9)	67 (1.3)	261 (1.2)
New York	24 (1.2)	254 (3.4)	16 (1.0)	269 (2.7)	60 (1.5)	270 (2.0)
North Carolina	22 (0.9)	246 (2.4)	17 (0.8)	260 (1.9)	61 (1.1)	261 (1.2)
North Dakota	16 (1.1)	277 (2.0)	15 (0.8)	282 (2.1)	69 (1.4)	284 (1.5)
Ohio	20 (1.3)	260 (4.1)	17 (1.1)	268 (2.2)	63 (1.8)	270 (1.8)
Oklahoma	15 (1.0)	258 (2.5)	13 (1.0)	268 (2.0)	72 (1.5)	269 (1.2)
Pennsylvania	18 (1.2)	262 (3.0)	16 (0.8)	275 (2.1)	66 (1.7)	272 (1.4)
Rhode Island	22 (1.0)	260 (1.9)	16 (0.8)	266 (2.0)	61 (0.9)	267 (1.1)
South Carolina	23 (1.1)	252 (1.7)	15 (0.8)	265 (1.9)	62 (1.4)	262 (1.2)
Tennessee	19 (1.2)	250 (2.4)	16 (0.7)	259 (2.2)	65 (1.6)	260 (1.3)
Texas	28 (1.4)	257 (2.1)	18 (0.9)	262 (2.3)	54 (1.5)	268 (1.6)
Utah	18 (1.0)	266 (2.0)	16 (0.8)	274 (1.7)	66 (1.2)	276 (0.9)
Virginia	20 (1.3)	259 (2.3)	16 (0.8)	272 (2.1)	64 (1.6)	269 (1.3)
West Virginia	13 (0.8)	252 (2.1)	15 (0.7)	262 (1.5)	72 (1.1)	259 (1.1)
Wisconsin	24 (2.2)	275 (3.3)	19 (1.3)	279 (2.2)	57 (1.8)	278 (1.4)
Wyoming	18 (1.3)	267 (1.4)	19 (0.9)	279 (2.0)	63 (1.6)	275 (0.9)
TERRITORIES						
Guam	31 (1.0)	227 (1.9)	13 (0.9)	241 (3.0)	56 (1.1)	237 (1.5)
Virgin Islands	30 (1.2)	217 (2.0)	13 (1.0)	221 (2.1)	57 (1.4)	225 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 9.38 | Teachers' Reports on the Frequency with Which Students Make Up Mathematics Problems for Other Students to Solve

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	22 (2.3)	216 (1.9)	47 (2.4)	219 (1.7)	31 (2.5)	214 (1.9)
Northeast	30 (5.0)	223 (4.1)	48 (6.0)	223 (4.1)	22 (3.2)	211 (5.5)
Southeast	20 (3.6)	204 (3.0)	48 (4.1)	210 (3.3)	33 (2.9)	206 (2.1)
Central	18 (4.4)	221 (4.1)!	41 (5.2)	227 (2.7)	41 (7.1)	222 (2.9)
West	25 (5.4)	215 (2.7)!	51 (5.0)	221 (3.2)	25 (4.6)	214 (4.1)!
STATES						
Alabama	30 (3.4)	209 (3.3)	43 (3.4)	209 (1.8)	27 (3.1)	203 (2.8)
Arizona	21 (2.4)	216 (2.3)	45 (2.3)	216 (1.6)	34 (2.9)	210 (1.9)
Arkansas	13 (2.1)	207 (3.0)	32 (3.4)	210 (2.1)	55 (3.3)	209 (1.5)
California	24 (3.2)	209 (3.3)	51 (3.3)	209 (2.1)	25 (2.6)	202 (2.1)
Colorado	24 (2.7)	225 (2.6)	44 (3.1)	219 (1.7)	31 (2.9)	218 (1.9)
Connecticut	29 (2.9)	229 (2.6)	46 (3.0)	230 (1.7)	25 (3.0)	221 (3.0)
Delaware	24 (0.9)	220 (1.8)	43 (1.6)	220 (0.9)	34 (1.5)	212 (1.7)
Dist. Columbia	39 (1.0)	192 (1.2)	38 (1.1)	190 (1.5)	23 (0.8)	190 (1.5)
Florida	27 (3.0)	212 (2.2)	38 (2.2)	215 (1.9)	34 (3.0)	209 (2.1)
Georgia	31 (2.8)	213 (1.9)	42 (2.9)	218 (2.0)	27 (2.4)	207 (2.3)
Hawaii	20 (2.3)	215 (2.3)	41 (2.6)	214 (2.1)	39 (3.0)	211 (2.1)
Idaho	10 (1.9)	222 (2.1)	45 (2.8)	220 (1.4)	45 (2.8)	220 (1.4)
Indiana	16 (2.6)	219 (2.8)	39 (3.4)	220 (1.6)	45 (3.9)	219 (1.5)
Iowa	21 (2.7)	225 (2.0)	48 (3.2)	231 (1.3)	31 (3.0)	228 (2.0)
Kentucky	28 (2.8)	215 (2.1)	45 (3.1)	214 (1.6)	27 (3.5)	211 (2.2)
Louisiana	30 (3.1)	202 (2.9)	37 (3.0)	206 (2.3)	33 (3.4)	200 (2.3)
Maine	21 (2.8)	230 (1.8)	45 (4.0)	232 (1.7)	34 (3.9)	229 (1.9)
Maryland	37 (3.2)	217 (2.5)	48 (3.4)	218 (1.9)	15 (2.1)	219 (3.6)
Massachusetts	23 (2.7)	227 (2.6)	43 (3.6)	227 (2.0)	34 (3.7)	225 (2.0)
Michigan	22 (3.5)	214 (4.7)	40 (3.6)	220 (3.0)	38 (3.5)	220 (1.8)
Minnesota	24 (3.8)	226 (2.8)	46 (3.8)	228 (1.5)	30 (2.9)	227 (1.9)
Mississippi	28 (3.1)	198 (1.9)	35 (3.1)	203 (2.1)	38 (3.3)	199 (2.2)
Missouri	23 (2.6)	221 (3.1)	41 (3.2)	224 (1.9)	37 (3.4)	222 (1.9)
Nebraska	20 (3.1)	228 (3.2)	49 (4.0)	225 (2.2)	31 (3.8)	223 (1.7)
New Hampshire	23 (2.8)	229 (2.7)	51 (3.6)	233 (1.4)	26 (3.0)	222 (1.6)
New Jersey	30 (3.5)	232 (2.5)	39 (3.5)	225 (2.2)	30 (4.1)	224 (2.8)
New Mexico	22 (3.2)	212 (2.5)	45 (3.3)	214 (1.8)	34 (3.4)	210 (2.1)
New York	27 (2.3)	219 (2.2)	46 (3.1)	218 (2.1)	27 (2.6)	214 (2.4)
North Carolina	27 (2.8)	209 (2.2)	39 (2.9)	216 (1.6)	33 (2.9)	211 (1.6)
North Dakota	9 (2.7)	224 (2.7)!	36 (4.3)	227 (1.5)	55 (4.7)	229 (1.3)
Ohio	23 (2.8)	218 (2.5)	46 (2.9)	219 (2.2)	31 (2.5)	214 (2.3)
Oklahoma	17 (2.5)	222 (2.4)	37 (2.8)	218 (1.4)	46 (3.5)	220 (1.4)
Pennsylvania	25 (3.0)	227 (3.2)	38 (3.2)	222 (1.9)	37 (3.5)	221 (2.6)
Rhode Island	17 (2.4)	217 (4.5)	40 (3.4)	218 (2.0)	44 (4.0)	209 (2.7)
South Carolina	28 (3.1)	212 (2.2)	40 (2.9)	214 (1.6)	32 (2.7)	207 (2.4)
Tennessee	19 (2.6)	207 (2.9)	37 (3.2)	210 (1.6)	44 (3.5)	211 (1.6)
Texas	36 (3.2)	220 (2.2)	40 (3.2)	218 (2.1)	24 (3.5)	212 (2.6)
Utah	21 (2.7)	228 (1.9)	42 (2.6)	224 (1.6)	37 (3.1)	220 (1.5)
Virginia	27 (2.8)	220 (3.1)	44 (3.1)	221 (1.8)	29 (2.7)	216 (2.2)
West Virginia	20 (3.0)	217 (2.3)	34 (3.1)	216 (2.0)	46 (3.5)	210 (1.4)
Wisconsin	24 (2.8)	228 (2.3)	49 (3.1)	228 (1.4)	27 (3.2)	228 (2.0)
Wyoming	18 (2.3)	226 (1.9)	46 (3.2)	225 (1.4)	36 (3.4)	223 (1.4)
TERRITORY						
Guam	35 (1.0)	193 (1.3)	32 (1.1)	193 (1.7)	33 (1.2)	188 (2.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.38 | Teachers' Reports on the Frequency with Which Students Make Up Mathematics Problems for Other Students to Solve (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	7 (1.3)	269 (4.0)	33 (2.5)	269 (2.3)	59 (2.6)	267 (1.4)
Northeast	4 (2.1)	253(10.0)!	41 (6.3)	273 (5.7)	55 (6.4)	265 (4.1)
Southeast	9 (2.8)	265 (7.2)!	34 (2.8)	259 (3.2)	57 (3.3)	263 (1.8)
Central	8 (3.6)	274 (5.5)!	32 (6.1)	278 (3.5)!	60 (6.3)	274 (3.8)
West	7 (1.7)	274 (9.0)!	30 (4.5)	266 (4.2)	63 (4.5)	267 (2.3)
STATES						
Alabama	15 (2.8)	244 (7.3)	22 (3.6)	250 (3.0)	63 (4.0)	254 (1.9)
Arizona	8 (1.4)	261 (4.6)	24 (2.9)	263 (2.0)	68 (3.1)	265 (1.7)
Arkansas	9 (1.8)	251 (6.1)!	21 (3.4)	254 (2.6)	71 (3.7)	257 (1.5)
California	8 (2.0)	248 (3.7)!	29 (3.2)	259 (3.5)	63 (3.7)	264 (1.9)
Colorado	10 (2.1)	265 (4.3)!	34 (3.2)	272 (2.1)	56 (3.4)	272 (1.5)
Connecticut	14 (2.0)	266 (2.9)	34 (3.4)	276 (3.4)	52 (3.7)	274 (2.2)
Delaware	13 (0.7)	262 (2.9)	32 (0.8)	262 (1.4)	55 (0.8)	262 (1.3)
Dist. Columbia	23 (0.9)	227 (2.2)	36 (1.1)	242 (1.7)	41 (1.1)	234 (1.7)
Florida	10 (2.0)	265 (5.5)	26 (3.0)	257 (2.4)	64 (3.2)	260 (1.8)
Georgia	14 (2.3)	259 (3.0)	36 (3.2)	257 (2.1)	49 (3.3)	259 (1.9)
Hawaii	10 (0.4)	255 (2.9)	25 (0.8)	258 (1.7)	65 (0.9)	258 (1.1)
Idaho	7 (1.7)	269 (3.0)!	21 (2.2)	270 (1.9)	72 (2.9)	277 (0.9)
Indiana	7 (1.6)	265 (3.3)!	22 (2.9)	272 (3.0)	71 (3.2)	269 (1.5)
Iowa	5 (1.9)	287 (4.0)!	27 (4.1)	283 (2.1)	68 (4.2)	282 (1.2)
Kentucky	10 (2.8)	252 (3.3)!	28 (3.7)	265 (2.1)	62 (4.2)	263 (1.6)
Louisiana	14 (3.0)	246 (4.7)!	25 (3.4)	250 (2.8)	61 (3.7)	250 (2.2)
Maine	10 (3.0)	275 (5.2)!	35 (3.7)	278 (1.7)	55 (4.3)	279 (1.5)
Maryland	12 (2.1)	247 (3.6)	33 (3.2)	267 (3.3)	55 (3.4)	269 (1.8)
Massachusetts	6 (1.5)	269 (7.5)!	29 (3.0)	274 (1.9)	65 (3.3)	271 (1.6)
Michigan	15 (2.8)	261 (5.2)	31 (3.6)	265 (3.6)	53 (3.9)	270 (2.5)
Minnesota	8 (1.8)	287 (4.3)!	23 (2.7)	281 (2.3)	70 (3.3)	281 (1.4)
Mississippi	17 (3.2)	242 (5.4)	36 (3.6)	247 (2.4)	47 (3.9)	245 (1.4)
Missouri	6 (1.6)	268 (3.4)!	24 (2.9)	267 (2.6)	70 (3.1)	273 (1.2)
Nebraska	6 (1.9)	278 (3.6)!	35 (4.1)	275 (2.1)	58 (3.9)	279 (1.6)
New Hampshire	13 (2.5)	272 (2.5)	41 (2.7)	279 (1.6)	46 (3.2)	278 (1.5)
New Jersey	15 (2.9)	261 (6.1)	41 (3.9)	274 (2.7)	44 (3.9)	272 (2.7)
New Mexico	14 (2.5)	254 (2.0)	24 (2.7)	256 (2.0)	61 (3.2)	262 (1.3)
New York	12 (2.6)	257 (5.1)!	28 (4.0)	268 (3.6)	59 (3.8)	266 (3.1)
North Carolina	10 (1.9)	254 (4.4)	36 (3.0)	259 (2.0)	54 (3.1)	257 (1.5)
North Dakota	7 (2.5)	279 (5.4)!	26 (3.2)	284 (1.7)	67 (3.9)	283 (1.3)
Ohio	6 (1.2)	256 (3.2)	22 (3.2)	270 (3.7)	72 (3.3)	270 (1.7)
Oklahoma	4 (1.3)	258 (5.9)!	21 (2.8)	269 (2.6)	74 (3.0)	268 (1.4)
Pennsylvania	7 (1.6)	251 (5.6)!	25 (3.1)	265 (3.1)	68 (3.5)	275 (1.6)
Rhode Island	17 (0.6)	269 (2.0)	25 (0.8)	262 (1.8)	58 (0.9)	265 (1.0)
South Carolina	11 (2.1)	256 (3.7)	38 (2.8)	259 (2.4)	51 (3.2)	262 (1.8)
Tennessee	12 (2.5)	256 (3.4)!	28 (2.9)	257 (2.3)	60 (3.3)	258 (2.1)
Texas	11 (1.8)	253 (3.8)	32 (2.5)	267 (2.2)	57 (3.2)	266 (2.1)
Utah	8 (1.9)	280 (3.0)!	23 (2.2)	271 (1.6)	69 (2.4)	274 (1.0)
Virginia	10 (1.7)	263 (4.3)	31 (3.0)	264 (2.3)	58 (3.3)	270 (1.6)
West Virginia	8 (2.5)	253 (2.6)!	22 (3.0)	260 (2.1)	69 (3.5)	259 (1.4)
Wisconsin	11 (3.1)	276 (5.1)!	43 (5.7)	280 (2.8)	46 (4.9)	277 (1.3)
Wyoming	4 (1.2)	278 (4.8)!	30 (3.0)	276 (1.7)	67 (3.1)	274 (1.0)
TERRITORIES						
Guam	14 (1.1)	258 (2.6)	26 (0.8)	222 (1.8)	59 (1.2)	233 (1.6)
Virgin Islands	27 (0.9)	216 (1.8)	30 (1.2)	225 (1.9)	43 (1.3)	221 (1.7)

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TABLE 9.39 Students' Reports on the Frequency with Which They Make Up Mathematics Problems for Other Students to Solve

	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
PUBLIC SCHOOLS	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	8 (0.4)	242 (2.0)	14 (0.8)	267 (1.7)	77 (0.9)	269 (1.1)
Northeast	7 (0.9)	240 (4.7)	16 (1.0)	271 (4.7)	78 (1.3)	270 (3.1)
Southeast	10 (1.1)	236 (3.0)	14 (1.9)	257 (3.0)	76 (1.9)	261 (1.5)
Central	7 (0.7)	250 (4.9)	15 (1.5)	273 (3.2)	78 (1.5)	275 (2.5)
West	9 (0.7)	241 (3.6)	14 (1.2)	265 (2.5)	77 (1.7)	271 (2.2)
STATES						
Alabama	10 (0.9)	231 (3.9)	13 (0.9)	250 (3.4)	78 (1.4)	254 (1.6)
Arizona	8 (0.5)	246 (3.0)	12 (0.7)	264 (2.5)	80 (0.8)	267 (1.3)
Arkansas	8 (0.6)	232 (3.5)	12 (0.9)	252 (2.7)	80 (1.2)	258 (1.1)
California	9 (0.7)	235 (3.6)	17 (0.9)	260 (2.4)	74 (1.2)	264 (1.7)
Colorado	9 (0.8)	258 (3.7)	17 (1.0)	274 (1.9)	74 (1.3)	273 (1.0)
Connecticut	7 (0.6)	250 (4.3)	16 (1.2)	274 (3.0)	77 (1.4)	275 (1.1)
Delaware	9 (0.8)	242 (4.1)	14 (0.9)	260 (2.0)	77 (1.1)	265 (1.0)
Dist. Columbia	21 (1.0)	222 (2.3)	17 (0.8)	245 (2.3)	62 (1.1)	235 (1.2)
Florida	10 (0.7)	239 (2.9)	11 (0.8)	259 (4.0)	79 (1.1)	262 (1.3)
Georgia	10 (0.8)	238 (2.7)	16 (1.1)	257 (1.9)	74 (1.4)	262 (1.2)
Hawaii	15 (0.8)	236 (2.0)	15 (0.7)	257 (1.9)	70 (0.9)	261 (1.0)
Idaho	4 (0.3)	259 (3.6)	13 (0.8)	272 (1.5)	82 (0.8)	276 (0.9)
Indiana	5 (0.6)	250 (3.7)	13 (0.9)	268 (2.7)	82 (1.1)	271 (1.2)
Iowa	5 (0.5)	271 (3.2)	17 (1.2)	283 (1.9)	78 (1.4)	284 (1.1)
Kentucky	8 (0.6)	241 (3.0)	15 (0.9)	263 (2.2)	77 (1.2)	263 (1.0)
Louisiana	14 (0.9)	232 (2.7)	13 (0.8)	252 (2.5)	73 (1.4)	252 (1.7)
Maine	6 (0.5)	264 (3.0)	16 (0.9)	277 (1.7)	78 (1.2)	279 (1.0)
Maryland	8 (0.7)	236 (3.7)	16 (1.1)	264 (2.4)	76 (1.2)	268 (1.2)
Massachusetts	5 (0.5)	255 (3.4)	13 (1.0)	273 (3.0)	81 (1.1)	273 (1.1)
Michigan	9 (0.7)	249 (3.4)	15 (1.1)	271 (2.8)	77 (1.5)	268 (1.3)
Minnesota	7 (0.7)	268 (3.2)	15 (0.9)	280 (1.9)	79 (1.2)	283 (1.1)
Mississippi	14 (0.9)	230 (2.6)	14 (1.1)	249 (2.5)	71 (1.7)	248 (1.1)
Missouri	7 (0.8)	252 (3.5)	13 (0.9)	272 (2.4)	80 (1.2)	272 (1.1)
Nebraska	5 (0.5)	262 (4.5)	17 (1.5)	277 (2.5)	77 (1.7)	278 (1.2)
New Hampshire	5 (0.5)	265 (3.7)	19 (1.0)	279 (1.6)	76 (1.2)	278 (1.1)
New Jersey	10 (0.8)	253 (3.4)	18 (1.3)	273 (2.1)	72 (1.6)	274 (1.6)
New Mexico	9 (0.8)	238 (2.7)	12 (0.7)	257 (2.2)	79 (1.1)	262 (1.0)
New York	10 (0.9)	236 (4.6)	13 (0.8)	264 (4.1)	78 (1.1)	270 (1.8)
North Carolina	11 (0.7)	239 (2.7)	18 (0.8)	259 (1.9)	71 (1.1)	260 (1.2)
North Dakota	4 (0.5)	271 (3.2)	12 (0.8)	285 (2.2)	84 (1.1)	283 (1.3)
Ohio	6 (0.5)	244 (3.6)	14 (1.1)	266 (2.3)	80 (1.1)	270 (1.7)
Oklahoma	5 (0.5)	244 (4.6)	11 (1.0)	264 (2.4)	84 (1.2)	269 (1.1)
Pennsylvania	7 (0.7)	250 (3.6)	14 (0.8)	268 (2.4)	80 (1.0)	273 (1.5)
Rhode Island	8 (0.6)	249 (2.7)	13 (0.8)	264 (1.9)	79 (0.8)	267 (0.9)
South Carolina	11 (0.9)	241 (2.4)	17 (1.0)	262 (1.6)	72 (1.5)	263 (1.1)
Tennessee	8 (0.6)	238 (3.5)	13 (0.7)	255 (1.8)	78 (1.0)	261 (1.4)
Texas	11 (0.8)	244 (2.4)	14 (1.0)	265 (2.4)	75 (1.5)	267 (1.5)
Utah	6 (0.7)	258 (3.4)	14 (0.7)	270 (1.7)	80 (1.1)	276 (0.8)
Virginia	7 (0.6)	248 (3.2)	15 (0.9)	268 (2.1)	78 (1.1)	269 (1.2)
West Virginia	5 (0.5)	242 (2.7)	11 (0.7)	258 (1.6)	83 (0.9)	260 (1.1)
Wisconsin	6 (0.6)	256 (5.1)	17 (1.2)	279 (1.9)	77 (1.5)	279 (1.4)
Wyoming	5 (0.5)	260 (3.7)	15 (1.1)	273 (1.9)	80 (1.3)	276 (0.9)
TERRITORIES						
Guam	21 (1.0)	215 (2.1)	15 (0.9)	234 (2.9)	65 (1.1)	241 (1.1)
Virgin Islands	26 (0.9)	214 (1.5)	13 (0.8)	222 (1.8)	61 (1.1)	225 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 9.40 Teachers' Reports on How Often They Ask Students to Discuss Solutions to Mathematics Problems with Other Students, Grades 4 and 8

	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	33 (2.8)	218 (1.6)	39 (1.9)	219 (1.5)	28 (2.1)	218 (1.6)
Grade 8	43 (2.3)	274 (1.5)	32 (2.1)	266 (2.1)	25 (2.1)	262 (1.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.41 | Teachers' Reports on How Often They Ask Students to Discuss Solutions to Mathematics Problems with Other Students

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	34 (2.4)	218 (1.7)	39 (2.1)	217 (1.7)	26 (2.3)	215 (1.9)
Northeast	41 (7.3)	220 (4.9)!	37 (5.9)	223 (3.7)	22 (6.0)	216 (6.4)!
Southeast	32 (4.1)	208 (2.5)	48 (3.3)	209 (2.9)	21 (2.7)	203 (3.4)
Central	27 (3.4)	226 (3.5)	37 (4.6)	221 (3.2)	36 (5.8)	224 (3.1)
West	40 (5.1)	218 (2.4)	36 (3.9)	220 (4.1)	25 (3.8)	213 (2.2)
STATES						
Alabama	37 (3.6)	209 (2.6)	36 (3.2)	206 (2.2)	27 (3.0)	207 (2.2)
Arizona	34 (3.4)	216 (1.6)	37 (3.2)	214 (1.8)	29 (2.9)	213 (2.4)
Arkansas	22 (3.0)	209 (2.9)	31 (3.0)	211 (1.8)	47 (3.5)	208 (1.5)
California	36 (3.0)	209 (2.8)	40 (3.2)	211 (2.0)	24 (2.4)	199 (3.0)
Colorado	35 (2.8)	222 (1.9)	39 (2.8)	221 (1.5)	26 (2.8)	215 (1.9)
Connecticut	36 (3.6)	231 (2.4)	38 (3.7)	229 (1.9)	26 (3.2)	220 (2.8)
Delaware	32 (0.7)	226 (1.5)	36 (1.1)	214 (1.3)	32 (1.0)	213 (1.6)
Dist. Columbia	47 (1.0)	193 (1.1)	38 (1.0)	191 (1.5)	15 (0.8)	186 (2.2)
Florida	36 (3.1)	212 (2.5)	42 (3.2)	213 (1.7)	22 (2.5)	211 (2.3)
Georgia	32 (2.9)	218 (2.2)	40 (3.0)	211 (2.3)	28 (3.1)	213 (2.4)
Hawaii	27 (2.7)	212 (2.2)	36 (3.1)	215 (2.3)	37 (3.1)	211 (2.0)
Idaho	37 (3.5)	221 (1.6)	36 (3.2)	221 (1.6)	27 (2.7)	219 (1.7)
Indiana	19 (2.7)	221 (2.5)	39 (3.4)	222 (1.7)	42 (3.3)	216 (1.6)
Iowa	30 (3.7)	232 (1.7)	45 (2.9)	229 (1.3)	25 (3.3)	226 (2.2)
Kentucky	33 (3.4)	214 (1.9)	44 (3.3)	214 (1.4)	24 (3.4)	211 (2.0)
Louisiana	41 (3.3)	199 (2.6)	38 (3.1)	207 (2.1)	21 (2.8)	201 (2.6)
Maine	33 (3.3)	232 (2.1)	42 (3.3)	231 (1.4)	25 (2.7)	228 (2.0)
Maryland	39 (3.4)	221 (2.4)	42 (3.4)	219 (2.0)	19 (2.9)	210 (4.4)
Massachusetts	36 (3.3)	229 (2.6)	35 (3.1)	226 (2.0)	30 (2.8)	225 (2.0)
Michigan	32 (3.2)	217 (3.5)	45 (3.5)	220 (2.1)	23 (2.8)	220 (2.6)
Minnesota	28 (3.5)	229 (2.2)	43 (3.8)	225 (1.8)	29 (2.7)	229 (1.7)
Mississippi	36 (3.4)	203 (2.4)	32 (3.2)	199 (2.2)	31 (3.3)	199 (2.5)
Missouri	24 (2.9)	223 (2.5)	41 (3.1)	221 (1.9)	35 (3.3)	223 (2.1)
Nebraska	31 (3.5)	229 (2.3)	43 (3.7)	225 (2.0)	26 (3.2)	220 (2.3)
New Hampshire	36 (3.6)	234 (1.7)	40 (2.9)	227 (1.8)	24 (3.2)	227 (2.1)
New Jersey	34 (3.9)	230 (2.9)	38 (3.6)	227 (1.9)	28 (3.6)	224 (3.0)
New Mexico	30 (3.5)	214 (2.2)	39 (3.8)	212 (2.0)	30 (3.3)	211 (2.1)
New York	33 (3.4)	216 (2.3)	38 (3.6)	218 (2.3)	29 (3.1)	217 (2.4)
North Carolina	32 (2.6)	211 (1.9)	42 (2.8)	214 (1.5)	25 (2.8)	211 (2.0)
North Dakota	17 (3.5)	227 (2.4)!	39 (4.1)	227 (1.3)	44 (3.9)	229 (1.0)
Ohio	27 (3.2)	221 (2.6)	43 (3.5)	216 (1.9)	30 (3.3)	216 (2.0)
Oklahoma	30 (3.5)	221 (1.6)	39 (3.6)	219 (1.6)	31 (3.8)	219 (1.7)
Pennsylvania	35 (2.9)	226 (2.2)	38 (2.7)	223 (2.1)	27 (3.1)	219 (2.9)
Rhode Island	22 (3.1)	215 (3.8)	40 (3.4)	215 (2.3)	38 (3.3)	212 (2.2)
South Carolina	40 (2.8)	214 (1.9)	34 (2.9)	213 (2.0)	26 (2.7)	206 (2.0)
Tennessee	28 (3.1)	208 (2.3)	39 (3.3)	211 (2.1)	34 (3.0)	210 (1.7)
Texas	35 (3.0)	221 (2.5)	42 (3.4)	216 (2.2)	24 (2.8)	215 (3.0)
Utah	32 (2.8)	227 (1.8)	38 (3.0)	223 (1.4)	30 (2.7)	220 (1.7)
Virginia	35 (3.5)	225 (2.5)	40 (2.8)	217 (2.0)	25 (2.4)	217 (2.1)
West Virginia	30 (3.5)	215 (1.9)	34 (3.3)	214 (2.1)	36 (3.5)	211 (1.7)
Wisconsin	33 (3.1)	231 (1.9)	40 (2.9)	229 (1.8)	27 (3.0)	224 (2.3)
Wyoming	35 (2.9)	224 (1.7)	42 (2.9)	225 (1.4)	23 (2.8)	223 (1.7)
TERRITORY						
Guam	34 (1.1)	194 (1.7)	28 (1.3)	191 (1.3)	38 (1.2)	189 (1.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.41 | **Teachers' Reports on How Often They Ask Students to Discuss Solutions to Mathematics Problems with Other Students (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	43 (2.6)	273 (1.6)	32 (2.2)	265 (2.1)	25 (2.2)	261 (1.9)
Northeast	45 (5.1)	275 (4.0)	31 (4.7)	268 (5.0)	25 (3.1)	255 (4.0)
Southeast	31 (5.3)	269 (3.0)	40 (5.0)	261 (2.8)	29 (3.7)	255 (3.5)
Central	38 (4.8)	276 (3.9)	33 (6.2)	274 (4.1)!	29 (3.7)	274 (3.9)
West	55 (4.9)	273 (2.6)	26 (2.3)	260 (4.0)	19 (5.1)	260 (3.0)!
STATES						
Alabama	41 (3.9)	256 (2.2)	39 (3.9)	251 (3.5)	20 (2.8)	244 (3.3)
Arizona	48 (4.1)	267 (2.0)	35 (3.7)	266 (2.2)	17 (2.7)	254 (2.9)
Arkansas	39 (4.2)	258 (1.8)	32 (3.3)	258 (2.7)	29 (4.1)	250 (2.2)
California	49 (3.7)	264 (2.2)	34 (3.3)	265 (2.9)	17 (2.5)	246 (3.4)
Colorado	53 (3.3)	277 (1.6)	31 (2.8)	267 (2.3)	16 (2.2)	262 (2.5)
Connecticut	36 (3.7)	277 (3.4)	39 (3.6)	273 (2.9)	25 (3.2)	269 (2.8)
Delaware	36 (1.1)	269 (1.5)	46 (1.0)	259 (1.6)	17 (0.7)	259 (2.5)
Dist. Columbia	69 (1.2)	236 (1.3)	25 (1.1)	236 (2.3)	6 (0.6)	223 (3.2)
Florida	46 (3.0)	265 (2.0)	39 (3.2)	258 (2.2)	16 (2.1)	246 (2.6)
Georgia	52 (3.5)	263 (2.0)	31 (3.2)	255 (2.0)	17 (2.6)	250 (2.7)
Hawaii	34 (0.9)	262 (1.3)	39 (1.0)	257 (1.3)	26 (0.9)	252 (1.7)
Idaho	53 (2.8)	276 (1.4)	33 (2.3)	274 (1.7)	13 (2.1)	270 (2.8)
Indiana	36 (3.3)	273 (2.0)	36 (3.6)	271 (2.4)	28 (3.3)	263 (2.1)
Iowa	40 (4.0)	287 (1.5)	40 (4.5)	283 (1.9)	21 (3.9)	277 (2.6)!
Kentucky	41 (4.1)	267 (1.9)	38 (3.7)	262 (1.8)	21 (3.0)	252 (2.9)
Louisiana	43 (3.8)	248 (2.9)	39 (3.5)	254 (2.4)	18 (2.8)	246 (2.5)
Maine	42 (3.6)	281 (1.8)	43 (3.4)	279 (1.3)	15 (2.5)	269 (4.0)
Maryland	48 (3.7)	269 (2.3)	33 (3.3)	264 (2.8)	19 (2.8)	258 (3.4)
Massachusetts	36 (3.5)	279 (2.6)	36 (3.5)	271 (2.4)	29 (3.0)	265 (2.8)
Michigan	51 (3.8)	271 (2.6)	30 (3.0)	260 (2.9)	19 (2.6)	268 (2.9)
Minnesota	41 (3.6)	286 (1.6)	37 (3.6)	279 (2.1)	22 (3.5)	277 (2.3)
Mississippi	46 (4.1)	249 (2.0)	33 (3.8)	243 (2.6)	21 (3.1)	242 (2.4)
Missouri	47 (3.6)	275 (1.7)	31 (2.9)	270 (2.4)	22 (2.8)	265 (2.0)
Nebraska	47 (4.4)	283 (1.5)	34 (4.0)	273 (2.1)	18 (3.1)	271 (3.1)
New Hampshire	35 (3.2)	282 (1.5)	53 (3.6)	277 (1.3)	12 (2.4)	269 (1.9)!
New Jersey	43 (4.3)	276 (2.7)	36 (3.9)	268 (3.1)	20 (3.4)	268 (4.7)
New Mexico	49 (3.3)	264 (1.2)	38 (3.4)	257 (1.4)	12 (1.9)	250 (2.6)
New York	30 (3.4)	269 (4.0)	39 (3.9)	265 (4.2)	31 (3.3)	264 (3.1)
North Carolina	42 (3.2)	260 (1.9)	33 (2.9)	259 (2.0)	25 (3.0)	251 (2.4)
North Dakota	49 (4.2)	286 (1.8)	28 (3.7)	282 (1.9)	23 (3.3)	277 (2.1)
Ohio	27 (3.5)	274 (3.4)	42 (4.0)	269 (2.5)	31 (4.2)	265 (4.2)
Oklahoma	47 (4.0)	270 (1.8)	33 (3.7)	267 (1.9)	20 (2.8)	263 (2.5)
Pennsylvania	32 (3.3)	272 (3.6)	40 (3.3)	273 (1.8)	28 (2.9)	267 (2.5)
Rhode Island	44 (0.9)	270 (1.1)	30 (0.8)	262 (1.7)	26 (0.9)	260 (1.3)
South Carolina	41 (3.0)	265 (2.2)	40 (3.0)	261 (2.4)	19 (2.7)	250 (2.7)
Tennessee	40 (3.5)	261 (2.5)	33 (3.4)	257 (1.7)	27 (3.5)	254 (3.4)
Texas	57 (3.2)	266 (2.1)	27 (2.5)	262 (2.5)	15 (2.5)	258 (2.9)
Utah	60 (2.8)	278 (1.1)	22 (2.0)	270 (1.9)	18 (1.9)	263 (2.3)
Virginia	42 (3.1)	271 (2.1)	39 (3.0)	267 (1.9)	18 (2.7)	260 (2.7)
West Virginia	47 (3.1)	262 (1.5)	31 (2.9)	256 (2.0)	22 (2.5)	254 (2.1)
Wisconsin	48 (4.8)	282 (2.7)	32 (4.1)	277 (2.1)	20 (4.7)	273 (5.9)!
Wyoming	53 (3.6)	279 (1.2)	30 (3.3)	272 (1.4)	17 (2.3)	266 (2.2)
TERRITORIES						
Guam	26 (1.5)	260 (2.0)	33 (1.7)	227 (2.3)	41 (0.9)	222 (1.6)
Virgin Islands	42 (1.1)	220 (1.5)	40 (1.4)	224 (1.5)	19 (0.9)	216 (1.7)

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TABLE 9.42 Teachers' Reports on How Often They Ask Students to Work and Discuss Mathematics Problems that Reflect Real-Life Situations, Grades 4 and 8

	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	26 (2.1)	217 (1.7)	48 (2.4)	219 (1.4)	27 (2.1)	217 (1.5)
Grade 8	19 (1.6)	269 (2.8)	51 (2.2)	269 (1.3)	29 (2.0)	268 (1.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 9.43 | Teachers' Reports on How Often They Ask Students to Work and Discuss Mathematics Problems that Reflect Real-Life Situations

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	27 (2.2)	216 (1.8)	47 (2.5)	218 (1.6)	25 (2.3)	216 (1.8)
Northeast	28 (5.6)	226 (4.8)!	49 (4.7)	219 (3.7)	23 (4.1)	216 (5.1)!
Southeast	28 (4.6)	207 (2.6)	52 (3.7)	208 (3.0)	20 (2.8)	206 (2.5)
Central	22 (2.6)	223 (3.5)	45 (6.7)	225 (3.0)	33 (6.2)	223 (3.1)!
West	32 (5.0)	214 (2.8)	44 (4.9)	222 (3.2)	24 (4.7)	214 (3.1)!
STATES						
Alabama	29 (3.3)	208 (3.1)	42 (3.4)	208 (2.2)	29 (3.0)	206 (2.1)
Arizona	21 (2.3)	217 (1.9)	46 (2.4)	216 (1.5)	33 (2.7)	211 (2.1)
Arkansas	20 (2.9)	210 (2.3)	42 (3.5)	210 (1.7)	39 (3.3)	208 (1.6)
California	28 (3.4)	211 (3.0)	42 (3.2)	207 (2.2)	30 (3.0)	205 (2.6)
Colorado	26 (2.8)	224 (2.0)	44 (3.1)	219 (1.6)	30 (3.4)	218 (1.8)
Connecticut	28 (2.9)	230 (2.2)	45 (3.4)	226 (1.9)	27 (3.4)	227 (3.0)
Delaware	26 (0.8)	224 (1.6)	41 (1.4)	217 (1.6)	33 (1.1)	213 (1.5)
Dist. Columbia	29 (0.9)	189 (1.6)	50 (1.2)	194 (1.3)	21 (0.8)	186 (1.8)
Florida	32 (3.0)	211 (2.0)	49 (2.8)	213 (1.6)	19 (2.2)	212 (3.0)
Georgia	28 (2.7)	215 (2.5)	48 (3.1)	214 (2.4)	25 (2.6)	212 (2.3)
Hawaii	19 (2.6)	215 (2.6)	42 (3.0)	213 (2.0)	39 (3.0)	212 (2.2)
Idaho	21 (2.9)	225 (2.1)	48 (3.0)	219 (1.3)	31 (2.7)	220 (1.4)
Indiana	23 (3.5)	222 (2.4)	39 (3.5)	220 (1.7)	39 (3.5)	217 (1.4)
Iowa	26 (3.1)	227 (2.1)	46 (3.5)	231 (1.5)	27 (3.3)	228 (1.8)
Kentucky	31 (3.3)	214 (2.2)	44 (3.7)	215 (1.6)	24 (3.4)	210 (1.9)
Louisiana	39 (3.1)	206 (2.4)	40 (2.9)	202 (2.2)	21 (3.1)	199 (2.7)
Maine	22 (3.0)	230 (2.2)	48 (3.6)	231 (1.7)	30 (3.7)	230 (1.8)
Maryland	30 (2.4)	220 (2.3)	54 (2.5)	217 (2.1)	16 (2.4)	217 (3.5)
Massachusetts	23 (3.4)	228 (2.8)	47 (3.6)	226 (1.9)	30 (3.2)	227 (2.0)
Michigan	28 (3.2)	216 (4.2)	46 (3.7)	219 (2.1)	25 (2.8)	221 (2.8)
Minnesota	29 (3.3)	226 (2.0)	41 (2.8)	229 (1.9)	30 (2.7)	226 (1.7)
Mississippi	30 (3.6)	201 (2.6)	38 (3.5)	202 (2.0)	32 (3.2)	198 (2.2)
Missouri	28 (3.3)	221 (3.3)	46 (3.3)	222 (2.0)	26 (3.1)	223 (2.1)
Nebraska	25 (4.0)	230 (2.0)	43 (3.6)	224 (2.0)	32 (4.0)	222 (2.0)
New Hampshire	19 (2.6)	234 (2.6)	50 (3.5)	229 (1.4)	31 (3.7)	227 (2.2)
New Jersey	35 (4.0)	229 (2.6)	41 (3.9)	225 (2.3)	24 (3.2)	226 (2.9)
New Mexico	20 (3.1)	214 (2.9)	47 (3.1)	211 (1.7)	33 (3.3)	212 (1.8)
New York	27 (2.8)	217 (2.5)	47 (3.7)	218 (2.2)	27 (2.6)	216 (2.4)
North Carolina	26 (2.7)	212 (2.3)	45 (2.9)	211 (1.6)	30 (2.8)	215 (1.7)
North Dakota	20 (3.4)	227 (2.4)	37 (3.7)	229 (1.2)	43 (4.2)	227 (1.3)
Ohio	21 (3.5)	220 (3.1)	50 (3.9)	218 (1.8)	29 (3.3)	215 (2.4)
Oklahoma	23 (2.7)	219 (1.9)	51 (3.4)	219 (1.4)	26 (2.9)	220 (1.6)
Pennsylvania	29 (3.6)	227 (2.4)	44 (3.3)	222 (1.9)	27 (3.0)	220 (2.9)
Rhode Island	15 (2.4)	215 (5.0)	47 (3.6)	215 (2.2)	37 (3.6)	212 (2.3)
South Carolina	34 (3.2)	212 (1.9)	45 (3.2)	212 (1.6)	21 (2.6)	210 (2.4)
Tennessee	23 (2.5)	208 (2.8)	42 (3.2)	212 (2.1)	35 (3.3)	208 (1.8)
Texas	45 (3.7)	219 (2.2)	40 (3.4)	216 (2.5)	15 (2.8)	215 (3.2)
Utah	28 (2.9)	227 (1.7)	45 (2.9)	221 (1.5)	27 (2.6)	222 (1.7)
Virginia	27 (3.0)	219 (2.7)	46 (2.9)	223 (1.8)	27 (2.7)	215 (2.4)
West Virginia	23 (2.9)	218 (2.3)	37 (3.3)	213 (1.6)	40 (3.8)	211 (1.6)
Wisconsin	28 (3.1)	230 (2.2)	49 (3.0)	228 (1.7)	23 (2.8)	227 (2.2)
Wyoming	27 (2.5)	226 (2.0)	45 (3.3)	225 (1.2)	28 (3.3)	223 (1.5)
TERRITORY						
Guam	22 (0.9)	191 (1.9)	45 (1.4)	192 (1.5)	33 (1.2)	191 (1.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 9.43 | Teachers' Reports on How Often They Ask Students to Work and Discuss Mathematics Problems that Reflect Real-Life Situations (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Once a Week		Less than Weekly	
	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency	Percentage of students	Average Proficiency
NATION	19 (1.7)	269 (3.0)	51 (2.3)	268 (1.4)	30 (2.2)	267 (1.9)
Northeast	14 (5.0)	277(10.1)!	57 (6.0)	270 (3.3)	29 (3.9)	260 (4.7)
Southeast	23 (3.3)	264 (3.5)	40 (4.3)	259 (2.8)	37 (5.5)	263 (3.0)
Central	11 (3.2)	265 (4.7)!	64 (4.5)	276 (2.6)	25 (4.5)	276 (5.5)!
West	26 (2.6)	271 (4.3)	46 (4.2)	264 (3.1)	28 (3.4)	271 (3.0)
STATES						
Alabama	30 (4.2)	253 (2.8)	46 (4.1)	250 (3.0)	24 (3.3)	253 (3.1)
Arizona	24 (3.0)	265 (2.1)	45 (4.0)	265 (2.1)	31 (4.0)	262 (2.9)
Arkansas	16 (2.7)	252 (2.7)	45 (4.2)	253 (1.6)	39 (3.8)	261 (2.4)
California	16 (2.1)	255 (4.2)	44 (3.0)	262 (2.4)	40 (2.7)	263 (2.3)
Colorado	25 (3.2)	273 (2.6)	45 (3.1)	270 (2.0)	30 (3.3)	272 (2.0)
Connecticut	21 (2.5)	273 (3.3)	50 (3.2)	271 (2.2)	29 (3.0)	277 (2.8)
Delaware	29 (0.7)	259 (1.9)	42 (1.1)	262 (1.6)	29 (0.8)	266 (2.0)
Dist. Columbia	29 (1.0)	236 (2.2)	53 (1.3)	234 (1.5)	18 (0.9)	236 (2.7)
Florida	27 (2.9)	260 (2.7)	45 (2.9)	259 (1.8)	28 (2.7)	259 (3.0)
Georgia	32 (3.5)	257 (2.5)	50 (3.4)	258 (1.9)	19 (2.4)	261 (2.9)
Hawaii	16 (0.6)	260 (2.1)	42 (1.0)	254 (1.3)	43 (1.0)	260 (1.2)
Idaho	25 (2.7)	271 (2.0)	46 (3.1)	275 (1.1)	29 (3.1)	277 (1.8)
Indiana	15 (2.7)	267 (3.9)	52 (3.4)	271 (1.8)	33 (3.1)	268 (2.3)
Iowa	24 (3.4)	283 (2.1)	52 (3.9)	283 (1.5)	24 (3.9)	283 (3.0)
Kentucky	24 (3.2)	265 (2.6)	42 (3.9)	261 (1.9)	34 (3.5)	263 (1.4)
Louisiana	22 (3.1)	248 (3.4)	48 (4.1)	251 (2.4)	30 (3.5)	250 (2.6)
Maine	31 (3.6)	279 (2.1)	44 (3.6)	278 (1.8)	26 (2.6)	278 (2.1)
Maryland	22 (3.3)	262 (3.3)	44 (3.6)	265 (2.8)	34 (3.4)	270 (2.3)
Massachusetts	18 (2.7)	275 (2.7)	45 (3.1)	271 (1.7)	36 (2.9)	272 (2.1)
Michigan	31 (3.6)	273 (3.9)	48 (3.0)	261 (2.0)	21 (2.8)	271 (3.5)
Minnesota	24 (3.1)	284 (2.1)	44 (4.5)	280 (1.5)	32 (4.4)	281 (2.3)
Mississippi	31 (4.0)	246 (2.6)	43 (4.4)	244 (2.4)	27 (3.9)	246 (2.9)
Missouri	22 (2.9)	266 (2.2)	51 (3.3)	271 (1.5)	26 (3.0)	275 (2.3)
Nebraska	20 (2.9)	275 (2.2)	50 (3.6)	278 (1.8)	31 (3.4)	278 (2.4)
New Hampshire	18 (2.7)	278 (2.4)	51 (3.5)	275 (1.2)	31 (3.6)	281 (1.9)
New Jersey	29 (3.1)	271 (3.3)	45 (3.7)	268 (3.0)	27 (3.3)	277 (3.2)
New Mexico	20 (2.6)	256 (2.1)	51 (3.3)	261 (1.0)	29 (2.8)	258 (2.0)
New York	21 (3.0)	264 (4.3)	42 (3.1)	264 (3.3)	37 (2.9)	268 (3.7)
North Carolina	15 (2.1)	254 (3.4)	49 (3.1)	257 (1.7)	36 (3.3)	259 (1.8)
North Dakota	26 (3.7)	282 (2.3)	49 (4.2)	282 (1.2)	25 (3.6)	286 (2.6)
Ohio	19 (3.1)	268 (2.4)	45 (3.6)	265 (2.2)	36 (3.9)	276 (2.6)
Oklahoma	24 (3.3)	265 (2.3)	41 (3.2)	267 (2.1)	35 (3.5)	270 (2.5)
Pennsylvania	19 (2.8)	266 (4.2)	45 (3.2)	270 (1.9)	36 (3.2)	274 (2.5)
Rhode Island	27 (0.9)	265 (1.1)	37 (1.1)	265 (1.4)	36 (1.0)	265 (1.3)
South Carolina	27 (2.7)	258 (2.6)	47 (3.5)	263 (1.6)	26 (3.1)	259 (2.6)
Tennessee	22 (3.1)	255 (2.8)	47 (4.0)	261 (2.3)	32 (4.0)	255 (2.3)
Texas	41 (3.0)	266 (2.7)	43 (2.7)	264 (2.2)	16 (2.4)	261 (2.6)
Utah	18 (2.2)	274 (2.4)	46 (2.7)	273 (1.1)	36 (2.8)	274 (1.8)
Virginia	19 (2.5)	264 (3.1)	40 (2.6)	267 (1.7)	40 (2.6)	269 (2.2)
West Virginia	16 (2.7)	257 (2.1)	50 (3.7)	258 (1.3)	34 (3.4)	261 (2.3)
Wisconsin	22 (3.1)	277 (3.3)	58 (4.0)	279 (2.2)	20 (3.2)	277 (2.2)
Wyoming	23 (2.6)	276 (2.1)	42 (3.1)	275 (1.5)	35 (2.5)	274 (1.3)
TERRITORIES						
Guam	28 (1.3)	244 (1.7)	24 (1.6)	232 (3.3)	48 (1.5)	228 (1.4)
Virgin Islands	5 (0.5)	223 (3.6)	61 (1.3)	219 (1.5)	34 (1.3)	225 (1.3)

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CHAPTER TEN

Use of Calculators and Computers in the Nation and the States

Overview

Chapter Ten includes data related to the use of calculators and computers in mathematics instruction. The NCTM Standards state that age-appropriate calculators should be available to all students at all times; a computer should be available in every classroom for demonstration purposes; every student should have access to a computer for individual and group work; and students should learn to use the computer as a tool for processing information and performing calculations to investigate and solve problems.[*]

NAEP provided four-function calculators to fourth graders and scientific calculators to eighth and twelfth graders for portions of the assessment, conducting brief training exercises in their usage prior to testing. Consistent with the importance of technology in mathematics instruction, the assessment collected information concerning whether the students knew how and when to use the calculators effectively. Additionally, students, teachers, and school administrators were asked questions about the availability and use of calculators and computers in school.

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[*] *Professional Standards for Teaching Mathematics* (Reston, VA: National Council of Teachers of Mathematics, 1991).

TABLE 10.1 Teachers' Reports on Permitting the Use of Calculators in Mathematics Class, Grades 4 and 8

	Assessment Years	Unrestricted Use		Restricted Use	
		Percent of Students	**Average Proficiency**	**Percent of Students**	**Average Proficiency**
Grade 4					
Nation	**1992**	5 (1.1)	219 (5.7)	95 (1.1)	218 (0.9)>
	1990	3 (0.8)	214 (4.2)	97 (0.8)	215 (1.1)
High ability	**1992**	8 (4.7)	247 (6.7)	92 (4.7)	237 (3.7)
	1990	2 (2.2)	198 (*.*)	98 (2.2)	235 (5.6)
Average ability	**1992**	5 (1.7)	220 (8.4)	95 (1.7)	222 (1.2)>
	1990	4 (1.6)	230 (7.8)	96 (1.6)	214 (1.7)
Low ability	**1992**	4 (2.0)	185 (5.4)	96 (2.0)	196 (2.1)
	1990	3 (1.7)	187 (9.5)	97 (1.7)	203 (3.9)
Mixed ability	**1992**	4 (1.3)	215 (5.5)	96 (1.3)	217 (1.2)
	1990	3 (1.4)	207 (7.9)	97 (1.4)	213 (1.7)
Grade 8					
Nation	**1992**	30 (2.3)>	280 (2.2)	70 (2.3)<	264 (1.3)
	1990	18 (3.1)	280 (3.4)	82 (3.1)	260 (1.5)
High ability	**1992**	50 (4.8)>	305 (2.2)	50 (4.8)<	294 (2.4)>
	1990	26 (4.5)	300 (3.7)	74 (4.5)	284 (3.0)
Average ability	**1992**	29 (3.8)>	270 (2.3)	71 (3.8)<	264 (1.5)
	1990	12 (4.2)	268 (4.1)	88 (4.2)	259 (2.2)
Low ability	**1992**	16 (3.5)	246 (3.7)<	84 (3.5)	244 (2.1)
	1990	15 (4.1)	270 (4.9)	85 (4.1)	240 (2.9)
Mixed ability	**1992**	21 (4.1)	266 (2.5)	79 (4.1)	260 (1.8)
	1990	16 (6.6)	270 (5.6)	84 (6.6)	254 (3.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.2 | Teachers' Reports on Permitting the Use of Calculators in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992			
	Unrestricted Use		Restricted Use	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	5 (1.2)	219 (6.0)!	95 (1.2)	217 (1.0)
Northeast	10 (4.3)	232 (8.8)!	90 (4.3)	219 (2.3)
Southeast	5 (2.0)	209 (6.3)!	95 (2.0)	207 (2.1)
Central	3 (0.9)	*** (***)	97 (0.9)	224 (1.9)
West	5 (1.8)	211 (5.2)	95 (1.8)	218 (2.2)
STATES				
Alabama	7 (1.8)	206 (5.0)!	93 (1.8)	207 (1.6)
Arizona	6 (1.2)	221 (5.2)!	94 (1.2)	214 (1.1)
Arkansas	5 (1.1)	200 (4.3)!	95 (1.1)	210 (1.0)
California	11 (2.5)	204 (4.8)!	89 (2.5)	208 (1.8)
Colorado	9 (1.9)	220 (4.7)!	91 (1.9)	220 (1.2)
Connecticut	11 (2.5)	231 (3.4)!	89 (2.5)	227 (1.4)
Delaware	3 (0.2)	*** (***)	97 (0.2)	218 (0.9)
Dist. Columbia	25 (0.8)	190 (1.5)	75 (0.8)	191 (0.9)
Florida	9 (1.7)	212 (3.9)	91 (1.7)	213 (1.3)
Georgia	7 (1.4)	211 (5.5)!	93 (1.4)	214 (1.4)
Hawaii	12 (1.7)	212 (3.7)	88 (1.7)	213 (1.4)
Idaho	6 (1.4)	218 (2.9)!	94 (1.4)	220 (1.1)
Indiana	4 (1.3)	228 (4.1)!	96 (1.3)	219 (1.2)
Iowa	6 (1.3)	229 (2.7)!	94 (1.3)	229 (1.1)
Kentucky	13 (2.4)	220 (2.9)	87 (2.4)	212 (1.2)
Louisiana	8 (1.8)	194 (7.8)!	92 (1.8)	203 (1.6)
Maine	8 (1.9)	233 (3.3)!	92 (1.9)	230 (1.1)
Maryland	15 (2.7)	221 (3.3)	85 (2.7)	218 (1.7)
Massachusetts	9 (2.1)	230 (6.1)!	91 (2.1)	226 (1.3)
Michigan	10 (2.5)	219 (6.7)!	90 (2.5)	219 (2.0)
Minnesota	10 (2.5)	231 (2.5)!	90 (2.5)	227 (1.2)
Mississippi	9 (2.0)	196 (3.6)!	91 (2.0)	200 (1.3)
Missouri	4 (1.6)	214 (9.4)!	96 (1.6)	222 (1.3)
Nebraska	11 (2.6)	237 (3.3)!	89 (2.6)	223 (1.3)
New Hampshire	9 (2.2)	232 (3.3)!	91 (2.2)	229 (1.3)
New Jersey	8 (1.9)	227 (7.0)!	92 (1.9)	227 (1.5)
New Mexico	6 (1.5)	218 (3.2)!	94 (1.5)	212 (1.3)
New York	7 (1.5)	231 (4.5)!	93 (1.5)	216 (1.4)
North Carolina	9 (1.5)	217 (2.6)	91 (1.5)	212 (1.1)
North Dakota	5 (1.3)	227 (2.1)!	95 (1.3)	228 (0.9)
Ohio	3 (1.0)	198 (4.3)!	97 (1.0)	218 (1.2)
Oklahoma	4 (1.3)	221 (4.6)!	96 (1.3)	219 (1.0)
Pennsylvania	4 (1.3)	232 (7.4)!	96 (1.3)	223 (1.4)
Rhode Island	5 (1.3)	209 (4.8)!	95 (1.3)	214 (1.6)
South Carolina	5 (1.2)	216 (5.4)!	95 (1.2)	211 (1.2)
Tennessee	5 (1.1)	208 (5.1)!	95 (1.1)	210 (1.4)
Texas	7 (1.2)	217 (4.0)	93 (1.2)	217 (1.5)
Utah	6 (1.6)	231 (4.6)!	94 (1.6)	223 (1.0)
Virginia	6 (1.5)	214 (4.8)!	94 (1.5)	220 (1.4)
West Virginia	8 (1.7)	217 (3.8)!	92 (1.7)	213 (1.1)
Wisconsin	10 (2.1)	229 (4.4)!	90 (2.1)	228 (1.2)
Wyoming	6 (1.4)	227 (4.3)!	94 (1.4)	224 (1.0)
TERRITORY				
Guam	19 (0.7)	192 (2.6)	81 (0.7)	191 (0.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 10.2 | Teachers' Reports on Permitting the Use of Calculators in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992				Grade 8 - 1990			
	Unrestricted Use		Restricted Use		Unrestricted Use		Restricted Use	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	30 (2.5)	279 (2.4)	70 (2.5)	262 (1.4)	18 (3.4)	281 (3.4)	82 (3.4)	259 (1.6)
Northeast	24 (4.0)	283 (9.0)	76 (4.0)	263 (4.6)	20 (11.8)	*** (***)	80 (11.8)	268 (3.8)!
Southeast	20 (3.1)	275 (3.0)	80 (3.1)	258 (1.5)	6 (3.1)	*** (***)	94 (3.1)	256 (2.9)
Central	37 (7.4)	286 (3.2)!	63 (7.4)	268 (3.1)	27 (8.1)	281 (3.9)!	73 (8.1)	256 (3.2)
West	38 (4.7)	275 (3.3)	62 (4.7)	262 (2.7)	20 (4.9)	283 (7.8)!	80 (4.9)	259 (2.8)
STATES								
Alabama	21 (3.3)»	259 (4.2)	79 (3.3)«	250 (1.8)	7 (1.5)	268 (5.7)!	93 (1.5)	252 (1.2)
Arizona	30 (3.4)>	273 (3.1)	70 (3.4)<	261 (1.4)	17 (2.3)	262 (4.2)	83 (2.3)	259 (1.5)
Arkansas	20 (2.4)»	267 (3.4)	80 (2.4)«	253 (1.5)	9 (1.7)	262 (5.9)	91 (1.7)	257 (1.0)
California	39 (3.5)	268 (2.2)	61 (3.5)	257 (2.1)	31 (3.0)	268 (3.3)	69 (3.0)	252 (1.6)
Colorado	46 (2.9)»	276 (2.0)	54 (2.9)«	267 (1.4)>	30 (2.8)	276 (2.2)	70 (2.8)	263 (1.2)
Connecticut	37 (3.4)>	286 (1.8)	63 (3.4)<	266 (1.6)	26 (3.2)	283 (2.9)	74 (3.2)	266 (1.4)
Delaware	29 (0.9)»	268 (2.0)	71 (0.9)«	260 (1.1)	23 (1.1)	274 (2.3)	77 (1.1)	257 (1.1)
Dist. Columbia	45 (1.1)»	239 (1.6)	55 (1.1)«	231 (1.3)	38 (1.1)	240 (1.7)	62 (1.1)	229 (1.0)
Florida	31 (2.6)»	274 (2.6)	69 (2.6)«	253 (1.6)	12 (1.6)	272 (4.4)	88 (1.6)	255 (1.4)
Georgia	27 (2.9)»	269 (2.9)	73 (2.9)«	254 (1.5)	14 (2.1)	268 (4.2)	86 (2.1)	256 (1.4)
Hawaii	25 (0.8)»	269 (2.1)	75 (0.8)«	253 (1.0)>	14 (0.6)	262 (2.6)	86 (0.6)	250 (0.9)
Idaho	44 (3.0)»	283 (1.4)>	56 (3.0)«	268 (1.2)	28 (2.0)	278 (1.4)	72 (2.0)	269 (0.9)
Indiana	14 (2.3)	287 (4.4)	86 (2.3)	267 (1.3)	8 (2.2)	286 (5.9)!	92 (2.2)	266 (1.3)
Iowa	31 (4.3)>	289 (1.9)	69 (4.3)<	280 (1.4)>	20 (2.9)	285 (3.3)	80 (2.9)	276 (1.2)
Kentucky	38 (3.4)»	271 (2.4)	62 (3.4)«	257 (1.3)	12 (1.9)	267 (2.9)	88 (1.9)	256 (1.2)
Louisiana	19 (3.2)»	251 (3.6)	81 (3.2)«	250 (1.8)	5 (1.4)	262 (4.9)!	95 (1.4)	246 (1.3)
Maine	48 (3.6)	282 (1.8)	52 (3.6)	274 (1.5)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	33 (3.6)>	280 (2.9)	67 (3.6)<	258 (1.9)	19 (2.7)	278 (4.4)	81 (2.7)	258 (1.7)
Massachusetts	21 (3.1)	287 (2.9)	79 (3.1)	268 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	48 (3.7)»	271 (2.3)	52 (3.7)«	262 (1.6)	26 (3.3)	280 (3.1)	74 (3.3)	259 (1.3)
Minnesota	57 (4.3)»	287 (1.4)	43 (4.3)«	274 (1.7)	31 (3.1)	284 (2.1)	69 (3.1)	272 (1.3)
Mississippi	11 (2.1)	257 (6.0)!	89 (2.1)	244 (1.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	44 (3.7)	276 (1.9)	56 (3.7)	267 (1.0)	xxx (xxx).	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	36 (4.3)>	286 (2.1)	64 (4.3)<	273 (1.3)	21 (2.2)	284 (2.0)	79 (2.2)	274 (1.3)
New Hampshire	31 (2.9)>	283 (2.4)	69 (2.9)<	275 (1.3)>	21 (1.3)	281 (1.8)	79 (1.3)	271 (1.1)
New Jersey	20 (3.5)>	278 (4.7)	80 (3.5)<	270 (1.7)	11 (1.7)	288 (5.2)	89 (1.7)	267 (1.3)
New Mexico	27 (3.1)>	263 (1.8)	73 (3.1)<	258 (1.1)	18 (0.8)	264 (1.8)	82 (0.8)	255 (0.8)
New York	18 (2.1)»	274 (4.4)>	82 (2.1)«	264 (2.3)	5 (1.2)	250 (7.3)!	95 (1.2)	261 (1.6)
North Carolina	19 (2.9)>	264 (2.3)	81 (2.9)<	256 (1.5)>	10 (1.6)	261 (5.7)	90 (1.6)	250 (1.2)
North Dakota	39 (3.1)»	288 (1.4)	61 (3.1)«	280 (1.7)	24 (3.3)	283 (1.6)	76 (3.3)	281 (1.7)
Ohio	21 (2.8)	277 (3.9)	79 (2.8)	267 (1.7)	15 (2.9)	272 (3.6)	85 (2.9)	264 (1.3)
Oklahoma	14 (3.2)	272 (4.8)!	86 (3.2)	267 (1.3)>	10 (2.3)	276 (4.3)!	90 (2.3)	263 (1.4)
Pennsylvania	25 (3.4)>	278 (3.4)	75 (3.4)<	268 (1.7)	13 (2.7)	280 (5.6)!	87 (2.7)	265 (1.5)
Rhode Island	25 (0.9)»	274 (1.5)»	75 (0.9)«	263 (0.9)>	19 (0.8)	263 (2.0)	81 (0.8)	260 (0.7)
South Carolina	20 (2.6)	277 (2.6)	80 (2.6)	256 (1.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	12 (2.6)	272 (3.6)!	88 (2.6)	256 (1.3)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	38 (3.5)»	271 (2.8)	62 (3.5)«	260 (1.6)>	12 (2.5)	269 (4.6)!	88 (2.5)	254 (1.5)
Utah	58 (2.8)	279 (1.2)	42 (2.8)	267 (1.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	20 (2.4)	276 (3.2)	80 (2.4)	265 (1.4)	14 (2.4)	280 (6.4)	86 (2.4)	261 (1.6)
West Virginia	24 (2.6)»	271 (2.7)	76 (2.6)«	255 (1.1)	11 (2.0)	279 (4.1)	89 (2.0)	254 (0.9)
Wisconsin	38 (4.2)	284 (1.9)	62 (4.2)	275 (2.1)	29 (3.6)	285 (2.3)	71 (3.6)	271 (1.5)
Wyoming	43 (3.7)	280 (1.4)	57 (3.7)	271 (1.1)	36 (1.3)	279 (1.5)	64 (1.3)	269 (0.8)
TERRITORIES								
Guam	17 (0.8)«	254 (3.1)»	83 (0.8)»	231 (1.1)	30 (0.8)	241 (1.8)	70 (0.8)	228 (1.0)
Virgin Islands	15 (0.7)»	225 (2.5)	85 (0.7)«	222 (1.3)	1 (0.0)	*** (***)	99 (0.0)	220 (1.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 10.3 Teachers' Reports on Permitting the Use of Calculators on Tests, Grades 4 and 8

		Unrestricted Use		Restricted Use	
	Assessment Years	**Percent of Students**	**Average Proficiency**	**Percent of Students**	**Average Proficiency**
Grade 4					
Nation	**1992**	5 (1.1)>	227 (4.3)	95 (1.1)<	218 (0.9)
	1990	2 (0.8)	231(18.6)	98 (0.8)	215 (1.1)
High ability	**1992**	8 (5.3)	250 (2.8)	92 (5.3)	237 (2.7)
	1990	8 (6.4)	264(18.0)	92 (6.4)	232 (4.9)
Average ability	**1992**	4 (1.7)	223 (6.1)	96 (1.7)	221 (1.2)>
	1990	0 (0.5)	202 (*.*)	100 (0.5)	215 (1.7)
Low ability	**1992**	6 (2.6)	206(16.1)	94 (2.6)	195 (1.9)
	1990	3 (1.5)	201 (6.3)	97 (1.5)	203 (4.0)
Mixed ability	**1992**	5 (1.7)	222 (4.6)>	95 (1.7)	216 (1.3)
	1990	1 (0.7)	200 (6.3)	99 (0.7)	213 (1.6)
Grade 8					
Nation	**1992**	48 (3.0)>	276 (1.8)	52 (3.0)<	262 (1.4)
	1990	32 (4.1)	272 (2.8)	68 (4.1)	259 (1.7)
High ability	**1992**	67 (3.6)>	303 (2.0)>	33 (3.6)<	292 (3.1)
	1990	39 (5.2)	292 (3.2)	61 (5.2)	285 (3.6)
Average ability	**1992**	43 (4.3)>	270 (2.0)	57 (4.3)<	262 (1.7)
	1990	23 (4.7)	267 (3.8)	77 (4.7)	258 (2.2)
Low ability	**1992**	42 (6.4)	246 (3.4)	58 (6.4)	243 (2.5)
	1990	24 (6.2)	256 (6.2)	76 (6.2)	240 (3.1)
Mixed ability	**1992**	40 (4.9)	261 (2.0)	60 (4.9)	261 (2.0)
	1990	41 (9.0)	263 (5.6)	59 (9.0)	252 (4.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.4 | Teachers' Reports on Permitting the Use of Calculators on Tests

PUBLIC SCHOOLS	Grade 4 - 1992			
	Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	5 (1.2)	227 (4.4)!	95 (1.2)	216 (1.1)
Northeast	9 (4.0)	236 (7.8)!	91 (4.0)	219 (2.7)
Southeast	2 (0.9)	*** (***)	98 (0.9)	208 (2.0)
Central	5 (2.8)	*** (***)	95 (2.8)	224 (2.2)
West	6 (1.9)	*** (***)	94 (1.9)	217 (2.0)
STATES				
Alabama	2 (0.8)	*** (***)	98 (0.8)	207 (1.6)
Arizona	4 (1.2)	217 (3.8)!	96 (1.2)	214 (1.1)
Arkansas	3 (1.2)	208 (9.6)!	97 (1.2)	209 (0.9)
California	12 (2.2)	214 (3.9)	88 (2.2)	207 (1.7)
Colorado	9 (2.2)	227 (3.0)!	91 (2.2)	219 (1.2)
Connecticut	7 (1.8)	228 (3.7)!	93 (1.8)	227 (1.4)
Delaware	3 (0.6)	*** (***)	97 (0.6)	217 (0.9)
Dist. Columbia	32 (1.1)	190 (1.4)	68 (1.1)	192 (1.1)
Florida	5 (1.2)	212 (4.1)!	95 (1.2)	212 (1.3)
Georgia	4 (1.1)	217 (6.5)!	96 (1.1)	214 (1.4)
Hawaii	14 (1.7)	211 (3.1)	86 (1.7)	213 (1.5)
Idaho	8 (2.1)	223 (3.1)!	92 (2.1)	220 (1.1)
Indiana	1 (0.6)	*** (***)	99 (0.6)	219 (1.2)
Iowa	2 (1.0)	*** (***)	98 (1.0)	229 (1.1)
Kentucky	13 (2.5)	213 (2.7)	87 (2.5)	213 (1.2)
Louisiana	7 (2.0)	200 (4.0)!	93 (2.0)	203 (1.7)
Maine	9 (1.9)	235 (3.9)!	91 (1.9)	230 (1.1)
Maryland	20 (2.9)	222 (3.1)	80 (2.9)	217 (1.6)
Massachusetts	5 (1.3)	242 (5.5)!	95 (1.3)	226 (1.2)
Michigan	19 (3.2)	214 (4.5)	81 (3.2)	220 (2.0)
Minnesota	11 (2.6)	234 (2.3)!	89 (2.6)	226 (1.3)
Mississippi	8 (2.4)	192 (7.0)!	92 (2.4)	200 (1.3)
Missouri	3 (1.2)	216 (6.2)!	97 (1.2)	222 (1.4)
Nebraska	3 (1.0)	*** (***)	97 (1.0)	225 (1.4)
New Hampshire	6 (1.7)	231 (5.1)!	94 (1.7)	229 (1.2)
New Jersey	4 (1.5)	241 (9.7)!	96 (1.5)	226 (1.4)
New Mexico	2 (0.9)	*** (***)	98 (0.9)	212 (1.3)
New York	4 (1.2)	222 (6.2)!	96 (1.2)	217 (1.3)
North Carolina	6 (1.4)	213 (4.5)!	94 (1.4)	212 (1.2)
North Dakota	2 (1.1)	*** (***)	98 (1.1)	228 (0.9)
Ohio	4 (1.8)	228 (5.5)!	96 (1.8)	217 (1.3)
Oklahoma	0 (0.3)	*** (***)	100 (0.3)	220 (1.1)
Pennsylvania	4 (1.5)	236 (6.8)!	96 (1.5)	222 (1.5)
Rhode Island	4 (1.3)	230 (4.1)!	96 (1.3)	213 (1.7)
South Carolina	3 (1.0)	210(10.1)!	97 (1.0)	211 (1.2)
Tennessee	2 (0.7)	*** (***)	98 (0.7)	210 (1.4)
Texas	6 (1.4)	224 (2.8)!	94 (1.4)	217 (1.6)
Utah	6 (1.5)	230 (4.6)!	94 (1.5)	223 (1.0)
Virginia	4 (1.2)	226 (5.9)!	96 (1.2)	219 (1.3)
West Virginia	6 (1.8)	218 (2.4)!	94 (1.8)	213 (1.2)
Wisconsin	7 (1.8)	232 (3.8)!	93 (1.8)	228 (1.2)
Wyoming	8 (1.6)	229 (2.2)!	92 (1.6)	224 (1.0)
TERRITORY				
Guam	6 (0.5)	190 (3.5)	94 (0.5)	192 (0.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 10.4 | Teachers' Reports on Permitting the Use of Calculators on Tests (continued)

	Grade 8 - 1992				Grade 8 - 1990			
	Yes		No		Yes		No	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	49 (3.1)	275 (1.9)	51 (3.1)	261 (1.6)	33 (4.5)	271 (2.9)	67 (4.5)	258 (1.8)
Northeast	46 (6.8)	279 (5.1)	54 (6.8)	259 (5.1)	14 (9.2)	*** (***)	86 (9.2)	268 (3.8)
Southeast	36 (5.7)	271 (2.1)	64 (5.7)	256 (2.2)	15 (8.1)	254 (7.6)!	85 (8.1)	258 (3.4)
Central	62 (6.9)	278 (4.3)	38 (6.9)	271 (3.2)!	44 (7.9)	274 (2.7)	56 (7.9)	254 (4.1)
West	53 (5.4)	272 (2.8)	47 (5.4)	263 (3.0)	48 (8.8)	273 (4.7)!	52 (8.8)	255 (3.4)
STATES								
Alabama	41 (4.4)»	259 (2.7)	59 (4.4)«	247 (2.1)	21 (3.5)	258 (3.0)	79 (3.5)	252 (1.2)
Arizona	45 (4.2)»	271 (2.0)	55 (4.2)«	259 (1.8)	22 (2.8)	265 (3.7)	78 (2.8)	258 (1.3)
Arkansas	34 (3.7)»	264 (1.9)	66 (3.7)«	251 (1.6)<	13 (1.9)	266 (2.8)	87 (1.9)	256 (0.9)
California	57 (3.6)	266 (1.9)	43 (3.6)	256 (2.9)	50 (3.9)	264 (2.7)	50 (3.9)	250 (2.0)
Colorado	65 (3.1)»	276 (1.4)	35 (3.1)«	263 (1.7)	45 (2.9)	273 (1.4)	55 (2.9)	262 (1.4)
Connecticut	56 (3.5)>	284 (1.4)	44 (3.5)<	260 (2.5)	43 (3.3)	279 (2.3)	57 (3.3)	265 (1.6)
Delaware	50 (0.9)»	267 (1.3)	50 (0.9)«	257 (1.4)	33 (1.4)	265 (1.7)	67 (1.4)	259 (1.3)
Dist. Columbia	60 (1.1)»	239 (1.5)	40 (1.1)«	228 (1.7)	49 (0.8)	236 (1.5)	51 (0.8)	230 (1.0)
Florida	44 (3.3)»	271 (1.9)	56 (3.3)«	250 (1.7)	23 (2.6)	267 (2.7)	77 (2.6)	253 (1.5)
Georgia	46 (3.7)>	263 (2.1)	54 (3.7)<	254 (1.7)	30 (3.0)	268 (2.4)	70 (3.0)	254 (1.5)
Hawaii	38 (1.0)»	268 (1.4)	62 (1.0)«	251 (0.9)	15 (0.8)	271 (2.4)	85 (0.8)	249 (0.8)
Idaho	62 (2.9)»	278 (1.0)>	38 (2.9)«	269 (1.4)	30 (1.4)	275 (1.3)	70 (1.4)	270 (0.9)
Indiana	31 (3.5)»	275 (2.0)	69 (3.5)«	267 (1.6)	15 (2.7)	273 (3.2)	85 (2.7)	267 (1.4)
Iowa	64 (4.0)»	286 (1.2)>	36 (4.0)«	278 (2.0)	42 (4.3)	279 (1.9)	58 (4.3)	277 (1.6)
Kentucky	64 (3.2)»	267 (1.7)	36 (3.2)«	255 (1.8)	20 (2.0)	262 (2.4)	80 (2.0)	256 (1.3)
Louisiana	29 (3.9)>	254 (3.1)	71 (3.9)<	249 (1.9)	16 (3.0)	254 (3.5)	84 (3.0)	245 (1.4)
Maine	71 (4.1)	281 (1.3)	29 (4.1)	272 (2.1)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	54 (4.0)»	276 (2.2)	46 (4.0)«	253 (2.4)	30 (3.3)	274 (2.9)	70 (3.3)	256 (2.0)
Massachusetts	29 (3.7)	280 (2.4)	71 (3.7)	269 (1.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	74 (3.3)»	269 (2.0)	26 (3.3)«	259 (3.2)	37 (3.6)	273 (2.3)	63 (3.6)	260 (1.5)
Minnesota	71 (3.6)»	284 (1.3)	29 (3.6)«	275 (2.4)	47 (3.9)	280 (1.4)	53 (3.9)	272 (1.4)
Mississippi	20 (3.2)	254 (4.4)	80 (3.2)	243 (1.3)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	76 (4.0)	273 (1.3)	24 (4.0)	265 (2.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	64 (4.7)»	280 (1.5)	36 (4.7)«	274 (1.8)	36 (2.3)	279 (1.3)	64 (2.3)	274 (1.6)
New Hampshire	57 (3.5)»	279 (1.2)	43 (3.5)«	276 (1.7)>	38 (1.4)	277 (1.4)	62 (1.4)	270 (1.2)
New Jersey	41 (4.1)»	280 (2.7)	59 (4.1)«	266 (2.3)	14 (2.1)	287 (3.4)	86 (2.1)	266 (1.4)
New Mexico	40 (3.1)»	265 (1.3)>	60 (3.1)«	255 (1.2)	20 (1.1)	259 (1.9)	80 (1.1)	256 (0.8)
New York	24 (2.9)>	278 (3.3)»	76 (2.9)<	262 (2.6)	12 (2.5)	255 (5.0)	88 (2.5)	261 (1.7)
North Carolina	34 (3.2)»	262 (1.9)	66 (3.2)«	255 (1.6)>	18 (2.3)	262 (3.5)	82 (2.3)	248 (1.2)
North Dakota	59 (3.5)»	284 (1.3)	41 (3.5)«	281 (2.0)	39 (3.4)	279 (2.0)	61 (3.4)	283 (1.7)
Ohio	44 (4.3)	273 (2.5)	56 (4.3)	266 (2.2)	33 (4.3)	270 (3.3)	67 (4.3)	264 (1.5)
Oklahoma	23 (3.2)	272 (2.3)	77 (3.2)	266 (1.6)	15 (3.0)	272 (3.8)!	85 (3.0)	262 (1.4)
Pennsylvania	42 (3.8)»	277 (2.3)	58 (3.8)«	266 (1.7)	20 (3.2)	281 (2.9)	80 (3.2)	263 (1.8)
Rhode Island	42 (0.9)»	269 (1.2)	58 (0.9)«	262 (1.0)>	23 (0.8)	267 (1.6)	77 (0.8)	258 (0.7)
South Carolina	40 (3.0)	270 (1.7)	60 (3.0)	254 (1.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	22 (3.4)	268 (3.0)	78 (3.4)	255 (1.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	54 (3.3)»	270 (2.2)	46 (3.3)«	257 (1.6)	22 (3.6)	268 (3.0)	78 (3.6)	253 (1.6)
Utah	67 (3.3)	277 (1.2)	33 (3.3)	267 (1.8)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	34 (3.4)	275 (2.4)	66 (3.4)	263 (1.5)	27 (2.7)	276 (3.7)	73 (2.7)	259 (1.6)
West Virginia	39 (3.4)»	266 (1.6)	61 (3.4)«	254 (1.3)	20 (2.9)	267 (3.4)	80 (2.9)	254 (1.1)
Wisconsin	64 (5.5)>	281 (1.9)	36 (5.5)<	273 (3.2)	50 (4.6)	278 (1.9)	50 (4.6)	272 (2.2)
Wyoming	66 (3.2)»	275 (1.2)	34 (3.2)«	274 (1.5)	49 (1.8)	274 (1.2)	51 (1.8)	271 (0.9)
TERRITORIES								
Guam	7 (0.7)<	264 (4.2)»	93 (0.7)>	233 (1.1)	9 (0.4)	233 (2.9)	91 (0.4)	232 (0.8)
Virgin Islands	34 (0.9)»	225 (1.3)	66 (0.9)«	221 (1.4)	3 (0.0)	*** (***)	97 (0.0)	220 (1.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

Students' Access to Calculators

TABLE 10.5 Teachers' Reports on Students' Access to School-Owned Calculators for Mathematics Schoolwork, Grades 4 and 8

	Assessment Years	Access to School-Owned Calculators			
		Yes		No	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4					
Nation	1992	59 (3.1)>	221 (2.3)	41 (3.1)<	214 (1.5)
	1990	44 (3.5)	218 (1.8)	56 (3.5)	212 (1.7)
White	1992	62 (3.5)>	228 (1.2)	38 (3.5)<	223 (1.5)
	1990	45 (4.1)	224 (2.0)	55 (4.1)	218 (1.8)
Black	1992	49 (5.4)	193 (1.9)	51 (5.4)	191 (2.2)
	1990	38 (7.0)	196 (3.8)	62 (7.0)	190 (2.4)
Hispanic	1992	48 (5.3)	203 (2.8)	52 (5.3)	198 (1.9)
	1990	46 (4.8)	199 (3.3)	54 (4.8)	202 (3.3)
Asian/Pacific Islander	1992	76 (5.6)	236 (3.8)	24 (5.6)	222 (4.4)
	1990	61 (7.6)	231 (7.0)	39 (7.6)	226 (5.8)
American Indian	1992	60 (7.4)>	207 (4.4)	40 (7.4)<	210 (6.3)
	1990	29 (8.0)	201 (6.5)	71 (8.0)	210 (5.1)
Male	1992	59 (3.3)>	223 (1.5)>	41 (3.3)<	214 (1.4)
	1990	44 (3.8)	217 (2.2)	56 (3.8)	213 (1.9)
Female	1992	59 (3.1)>	219 (1.5)	41 (3.1)<	214 (2.0)
	1990	44 (3.6)	218 (2.2)	56 (3.6)	211 (2.3)
Grade 8 †					
Nation	1992	72 (2.8)	269 (1.5)	28 (2.8)	269 (1.9)
	1990	54 (4.4)	263 (2.2)	46 (4.4)	264 (2.2)
White	1992	71 (3.3)	278 (1.5)	29 (3.3)	278 (2.1)
	1990	49 (4.8)	270 (2.7)	51 (4.8)	270 (2.1)
Black	1992	75 (2.6)	239 (1.8)	25 (2.6)	236 (2.9)
	1990	57 (8.5)	242 (3.2)	43 (8.5)	238 (5.8)
Hispanic	1992	67 (5.2)	246 (2.1)	33 (5.2)	248 (2.6)
	1990	75 (5.2)	248 (3.5)	25 (5.2)	249 (4.8)
Asian/Pacific Islander	1992	79 (3.6)	290 (5.0)	21 (3.6)	282 (9.3)
	1990	77(10.0)	274 (7.3)	23(10.0)	286(10.4)
American Indian	1992	70 (9.9)	256 (4.7)	30 (9.9)	252 (3.1)
	1990	79(31.0)	241(17.3)	21(31.0)	277 (7.2)
Male	1992	73 (2.7)	268 (1.6)	27 (2.7)	270 (2.1)
	1990	54 (4.4)	264 (2.8)	46 (4.4)	265 (2.4)
Female	1992	70 (3.2)	270 (1.6)	30 (3.2)	267 (2.0)
	1990	54 (4.7)	262 (2.3)	46 (4.7)	264 (2.2)
Grade 8					
Basic 4-Function	1992	62 (2.2)	266 (1.3)	38 (2.2)	273 (2.0)
Scientific	1992	36 (3.0)	274 (2.1)	64 (3.0)	267 (1.2)

† Access to Basic 4-Function and Scientific calculators combined.

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.6 | Teachers' Reports on Students' Access to School-Owned Calculators for Mathematics Schoolwork

PUBLIC SCHOOLS	Grade 4 - 1992			
	Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	62 (3.2)	221 (1.4)	38 (3.2)	211 (1.9)
Northeast	63 (7.0)	224 (3.4)	37 (7.0)	215 (4.2)
Southeast	49 (4.9)	212 (3.1)	51 (4.9)	203 (2.7)
Central	66 (8.0)	225 (1.7)	34 (8.0)	221 (4.7)!
West	69 (5.1)	222 (2.9)	31 (5.1)	209 (3.1)
STATES				
Alabama	34 (3.9)	209 (3.0)	66 (3.9)	206 (1.6)
Arizona	55 (3.7)	218 (1.6)	45 (3.7)	210 (1.8)
Arkansas	39 (4.4)	211 (1.6)	61 (4.4)	208 (1.4)
California	86 (3.0)	208 (1.8)	14 (3.0)	201 (3.5)!
Colorado	76 (3.5)	222 (1.3)	24 (3.5)	214 (2.1)
Connecticut	81 (3.0)	230 (1.3)	19 (3.0)	217 (3.7)
Delaware	72 (0.8)	218 (0.9)	28 (0.8)	217 (1.9)
Dist. Columbia	89 (0.5)	192 (0.8)	11 (0.5)	185 (2.3)
Florida	66 (3.4)	215 (1.3)	34 (3.4)	208 (2.5)
Georgia	53 (3.8)	217 (2.0)	47 (3.8)	211 (2.0)
Hawaii	81 (3.1)	214 (1.5)	19 (3.1)	209 (2.6)
Idaho	76 (3.7)	221 (1.2)	24 (3.7)	218 (1.4)
Indiana	63 (3.9)	221 (1.4)	37 (3.9)	217 (1.6)
Iowa	75 (3.4)	231 (1.1)	25 (3.4)	224 (2.0)
Kentucky	79 (3.7)	214 (1.2)	21 (3.7)	212 (2.1)
Louisiana	31 (4.1)	212 (2.3)	69 (4.1)	198 (2.0)
Maine	71 (4.2)	232 (1.2)	29 (4.2)	227 (2.3)
Maryland	83 (2.4)	221 (1.4)	17 (2.4)	204 (3.4)
Massachusetts	62 (4.1)	231 (1.6)	38 (4.1)	219 (2.2)
Michigan	94 (1.5)	219 (1.8)	6 (1.5)	217 (4.9)!
Minnesota	83 (3.2)	227 (1.3)	17 (3.2)	227 (2.0)!
Mississippi	44 (4.7)	199 (2.3)	56 (4.7)	200 (1.8)
Missouri	61 (4.4)	226 (1.4)	39 (4.4)	215 (2.3)
Nebraska	69 (4.2)	227 (1.7)	31 (4.2)	221 (2.3)
New Hampshire	63 (4.2)	231 (1.4)	37 (4.2)	225 (1.9)
New Jersey	58 (4.7)	233 (1.7)	42 (4.7)	219 (2.6)
New Mexico	37 (3.6)	215 (1.9)	63 (3.6)	210 (1.5)
New York	32 (4.4)	222 (2.6)	68 (4.4)	215 (1.7)
North Carolina	78 (3.2)	213 (1.1)	22 (3.2)	209 (3.0)
North Dakota	54 (4.0)	229 (1.0)	46 (4.0)	227 (1.4)
Ohio	66 (4.1)	218 (1.6)	34 (4.1)	215 (2.3)
Oklahoma	28 (4.0)	224 (1.8)	72 (4.0)	218 (1.1)
Pennsylvania	69 (4.0)	226 (1.6)	31 (4.0)	217 (2.9)
Rhode Island	57 (4.7)	219 (2.3)	43 (4.7)	208 (2.6)
South Carolina	70 (3.4)	212 (1.4)	30 (3.4)	210 (1.9)
Tennessee	29 (3.7)	215 (2.6)	71 (3.7)	207 (1.7)
Texas	71 (4.6)	220 (1.8)	29 (4.6)	212 (3.3)
Utah	61 (3.7)	224 (1.2)	39 (3.7)	221 (1.8)
Virginia	62 (3.5)	223 (1.5)	38 (3.5)	213 (2.3)
West Virginia	66 (4.0)	213 (1.4)	34 (4.0)	213 (2.3)
Wisconsin	79 (3.7)	228 (1.4)	21 (3.7)	227 (2.2)
Wyoming	83 (2.9)	225 (1.1)	17 (2.9)	222 (2.6)
TERRITORY				
Guam	5 (0.6)	194 (4.0)	95 (0.6)	191 (0.9)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 10.7 | Teachers' Reports on Students' Access to School-Owned 4-Function and Scientific Calculators

PUBLIC SCHOOLS	Grade 8 - 1992, 4-Function				Grade 8 - 1992, Scientific			
	Yes		No		Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	66 (3.4)	268 (1.6)	34 (3.4)	268 (1.9)	37 (3.3)	272 (2.4)	63 (3.3)	266 (1.4)
Northeast	69 (7.5)	267 (5.2)	31 (7.5)	272 (4.2)!	40 (9.8)	274 (5.2)!	60 (9.8)	263 (4.5)
Southeast	58 (6.5)	261 (1.3)	42 (6.5)	261 (2.9)	33 (3.3)	265 (2.8)	67 (3.3)	261 (2.0)
Central	71 (6.5)	275 (2.7)	29 (6.5)	275 (5.5)!	34 (8.5)	274 (6.2)!	66 (8.5)	276 (3.0)
West	67 (6.1)	268 (2.4)	33 (6.1)	266 (3.5)!	40 (5.0)	274 (4.0)	60 (5.0)	265 (2.2)
STATES								
Alabama	49 (4.7)	252 (2.9)	51 (4.7)	251 (1.8)	20 (3.8)	260 (4.1)	80 (3.8)	250 (1.8)
Arizona	70 (4.0)	266 (1.6)	30 (4.0)	261 (2.8)	21 (3.0)	272 (2.6)	79 (3.0)	263 (1.6)
Arkansas	61 (4.3)	257 (1.6)	39 (4.3)	254 (2.2)	20 (3.3)	260 (3.4)	80 (3.3)	256 (1.3)
California	78 (3.5)	261 (1.6)	22 (3.5)	262 (4.2)	25 (4.2)	261 (3.6)	75 (4.2)	261 (2.1)
Colorado	64 (3.8)	270 (1.4)	36 (3.8)	274 (2.2)	24 (3.7)	278 (2.6)	76 (3.7)	270 (1.4)
Connecticut	85 (2.6)	274 (1.3)	15 (2.6)	265 (5.2)	37 (3.7)	279 (2.6)	63 (3.7)	271 (2.0)
Delaware	68 (0.7)	260 (1.3)	32 (0.7)	264 (1.3)	29 (0.6)	263 (2.1)	71 (0.6)	262 (1.1)
Dist. Columbia	71 (1.4)	233 (1.4)	29 (1.4)	229 (2.5)	84 (0.9)	235 (1.1)	16 (0.9)	236 (3.3)
Florida	64 (4.1)	261 (1.9)	36 (4.1)	256 (2.6)	41 (3.8)	267 (2.4)	59 (3.8)	256 (2.0)
Georgia	84 (2.8)	257 (1.3)	16 (2.8)	258 (3.8)	26 (4.0)	270 (3.2)	74 (4.0)	257 (1.6)
Hawaii	78 (0.7)	257 (1.0)	22 (0.7)	260 (1.7)	41 (0.9)	262 (1.2)	59 (0.9)	255 (1.2)
Idaho	56 (3.3)	274 (1.2)	44 (3.3)	276 (1.6)	38 (3.4)	280 (1.4)	62 (3.4)	272 (1.2)
Indiana	72 (3.6)	270 (1.5)	28 (3.6)	269 (2.7)	15 (2.9)	282 (4.1)	85 (2.9)	268 (1.3)
Iowa	70 (4.0)	282 (1.2)	30 (4.0)	286 (2.3)	31 (4.4)	285 (2.1)	69 (4.4)	283 (1.4)
Kentucky	77 (3.3)	262 (1.4)	23 (3.3)	263 (2.9)	35 (4.6)	265 (2.5)	65 (4.6)	261 (1.3)
Louisiana	49 (4.7)	254 (2.9)	51 (4.7)	246 (1.8)	20 (3.3)	251 (3.6)	80 (3.3)	250 (2.0)
Maine	88 (2.3)	278 (1.4)	12 (2.3)	282 (2.9)	41 (4.6)	280 (1.9)	59 (4.6)	278 (1.3)
Maryland	81 (3.5)	268 (1.6)	19 (3.5)	259 (4.6)	50 (3.4)	272 (2.5)	50 (3.4)	261 (2.5)
Massachusetts	59 (3.8)	274 (1.9)	41 (3.8)	271 (2.0)	17 (3.7)	281 (3.6)!	83 (3.7)	269 (1.3)
Michigan	83 (2.9)	266 (1.4)	17 (2.9)	271 (4.1)	40 (4.5)	269 (2.8)	60 (4.5)	267 (1.9)
Minnesota	64 (4.3)	281 (1.5)	36 (4.3)	281 (1.9)	33 (4.2)	286 (2.2)	67 (4.2)	279 (1.3)
Mississippi	40 (4.1)	245 (2.3)	60 (4.1)	246 (1.8)	7 (2.4)	245 (9.7)!	93 (2.4)	245 (1.5)
Missouri	70 (3.7)	271 (1.4)	30 (3.7)	271 (1.7)	26 (4.0)	276 (2.2)	74 (4.0)	270 (1.3)
Nebraska	66 (3.6)	275 (1.6)	34 (3.6)	280 (1.8)	30 (4.4)	282 (2.8)	70 (4.4)	275 (1.2)
New Hampshire	75 (3.7)	278 (1.2)	25 (3.7)	277 (1.9)	24 (3.8)	280 (2.1)	76 (3.8)	276 (1.0)
New Jersey	71 (4.7)	277 (1.9)	29 (4.7)	261 (5.0)	42 (4.8)	272 (2.6)	58 (4.8)	273 (2.2)
New Mexico	71 (3.5)	261 (1.0)	29 (3.5)	256 (2.1)	19 (3.2)	262 (1.7)	81 (3.2)	258 (1.2)
New York	70 (3.8)	270 (2.6)	30 (3.8)	257 (4.9)	8 (2.4)	269 (8.4)!	92 (2.4)	266 (2.4)
North Carolina	74 (3.6)	258 (1.4)	26 (3.6)	255 (2.5)	33 (3.6)	264 (2.1)	67 (3.6)	255 (1.6)
North Dakota	45 (3.7)	283 (1.5)	55 (3.7)	282 (1.8)	26 (3.2)	288 (1.7)	74 (3.2)	281 (1.5)
Ohio	69 (4.2)	269 (1.9)	31 (4.2)	268 (2.0)	38 (4.8)	269 (2.6)	62 (4.8)	270 (2.4)
Oklahoma	43 (4.1)	267 (2.0)	57 (4.1)	267 (2.0)	14 (2.9)	265 (4.1)!	86 (2.9)	268 (1.5)
Pennsylvania	64 (3.5)	271 (1.7)	36 (3.5)	270 (2.8)	31 (4.1)	271 (2.9)	69 (4.1)	270 (2.1)
Rhode Island	71 (0.9)	267 (0.9)	29 (0.9)	260 (1.7)	29 (1.0)	263 (1.1)	71 (1.0)	266 (1.1)
South Carolina	77 (3.0)	260 (1.3)	23 (3.0)	260 (2.7)	29 (3.6)	265 (2.8)	71 (3.6)	259 (1.5)
Tennessee	41 (4.0)	259 (2.4)	59 (4.0)	257 (1.8)	18 (3.5)	257 (3.1)	82 (3.5)	258 (1.8)
Texas	70 (3.5)	265 (1.5)	30 (3.5)	263 (2.5)	47 (4.3)	271 (2.7)	53 (4.3)	260 (1.6)
Utah	38 (3.8)	271 (1.8)	62 (3.8)	275 (1.3)	22 (2.7)	279 (1.9)	78 (2.7)	273 (1.0)
Virginia	76 (3.4)	268 (1.5)	24 (3.4)	264 (2.7)	26 (3.6)	272 (2.3)	74 (3.6)	266 (1.4)
West Virginia	74 (3.7)	258 (1.0)	26 (3.7)	259 (2.4)	22 (3.6)	263 (2.4)	78 (3.6)	258 (1.2)
Wisconsin	58 (4.7)	276 (1.8)	42 (4.7)	281 (2.3)	41 (5.6)	281 (3.5)	59 (5.6)	278 (1.6)
Wyoming	80 (2.9)	274 (1.0)	20 (2.9)	275 (2.0)	34 (4.5)	280 (1.9)	66 (4.5)	272 (1.1)
TERRITORIES								
Guam	79 (1.3)	237 (1.2)	21 (1.3)	228 (2.6)	10 (0.5)	229 (2.4)	90 (0.5)	236 (1.3)
Virgin Islands	49 (1.2)	226 (1.3)	51 (1.2)	219 (1.6)	20 (0.9)	212 (1.9)	80 (0.9)	222 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 10.8 **Students' Reports on Having a Calculator to Use for Mathematics Schoolwork, Grades 4, 8, and 12**

	Student-Owned Calculators			
	Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4				
Nation	46 (1.2)	219 (0.9)	54 (1.2)	218 (0.8)
White	45 (1.5)	229 (1.0)	55 (1.5)	226 (1.0)
Black	49 (1.6)	190 (1.5)	51 (1.6)	193 (1.7)
Hispanic	45 (2.2)	200 (1.9)	55 (2.2)	202 (1.6)
Asian/Pacific Islander	47 (3.3)	234 (4.0)	53 (3.3)	229 (3.2)
American Indian	50 (4.9)	212 (4.5)	50 (4.9)	206 (3.6)
Male	44 (1.6)	220 (1.4)	56 (1.6)	220 (0.9)
Female	48 (1.4)	218 (1.2)	52 (1.4)	217 (1.0)
Grade 8				
Nation	81 (1.0)	271 (1.0)	19 (1.0)	256 (1.2)
White	84 (1.0)	279 (1.1)	16 (1.0)	270 (1.7)
Black	73 (2.5)	239 (1.5)	27 (2.5)	232 (1.9)
Hispanic	72 (1.6)	251 (1.6)	28 (1.6)	238 (1.8)
Asian/Pacific Islander	91 (2.2)	289 (4.9)	9 (2.2)	276(14.1)
American Indian	71 (6.3)	254 (3.4)	29 (6.3)	255 (4.6)
Male	79 (1.1)	270 (1.3)	21 (1.1)	258 (1.5)
Female	83 (1.0)	271 (1.1)	17 (1.0)	254 (1.6)
Grade 12 - All Students				
Nation	90 (0.6)	302 (0.9)	10 (0.6)	276 (1.7)
White	92 (0.6)	307 (0.9)	8 (0.6)	284 (2.2)
Black	85 (1.1)	277 (1.8)	15 (1.1)	261 (2.9)
Hispanic	82 (1.4)	287 (1.7)	18 (1.4)	267 (4.0)
Asian/Pacific Islander	91 (2.5)	318 (3.5)	9 (2.5)	283 (7.5)
American Indian	80 (6.7)	285 (7.6)	20 (6.7)	267(20.5)
Male	88 (0.8)	304 (1.0)	12 (0.8)	278 (2.2)
Female	91 (0.6)	299 (1.0)	9 (0.6)	275 (2.2)
Grade 12 - Taking Math				
Nation	92 (0.5)	309 (0.9)	8 (0.5)	282 (2.4)
White	94 (0.6)	315 (1.0)	6 (0.6)	294 (2.7)
Black	89 (1.4)	282 (1.8)	11 (1.4)	267 (4.4)
Hispanic	82 (1.8)	292 (1.9)	18 (1.8)	267 (4.9)
Asian/Pacific Islander	91 (2.8)	322 (3.7)	9 (2.8)	283 (8.2)
Male	91 (0.8)	310 (1.2)	9 (0.8)	283 (3.3)
Female	93 (0.7)	307 (1.1)	7 (0.7)	280 (3.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

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TABLE 10.9 | Students' Reports on Having a Calculator to Use for Mathematics Schoolwork

PUBLIC SCHOOLS	Grade 4 - 1992			
	Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	47 (1.4)	219 (1.0)	53 (1.4)	217 (0.9)
Northeast	51 (3.2)	226 (2.4)	49 (3.2)	220 (2.4)
Southeast	43 (2.6)	207 (2.6)	57 (2.6)	210 (1.8)
Central	48 (2.4)	224 (2.3)	52 (2.4)	221 (2.4)
West	46 (3.0)	217 (2.0)	54 (3.0)	218 (1.6)
STATES				
Alabama	47 (2.1)	206 (1.7)	53 (2.1)	208 (1.8)
Arizona	43 (1.4)	214 (1.4)	57 (1.4)	214 (1.4)
Arkansas	38 (1.5)	207 (1.3)	62 (1.5)	210 (1.2)
California	55 (2.0)	209 (2.1)	45 (2.0)	206 (1.7)
Colorado	51 (1.9)	220 (1.2)	49 (1.9)	220 (1.3)
Connecticut	50 (1.8)	227 (1.5)	50 (1.8)	225 (1.4)
Delaware	52 (1.3)	217 (1.1)	48 (1.3)	217 (1.1)
Dist. Columbia	71 (0.8)	193 (0.8)	29 (0.8)	190 (1.1)
Florida	39 (2.1)	212 (2.0)	61 (2.1)	213 (1.6)
Georgia	42 (1.6)	212 (2.0)	58 (1.6)	217 (1.2)
Hawaii	58 (1.5)	213 (1.5)	42 (1.5)	213 (1.6)
Idaho	48 (2.4)	221 (1.2)	52 (2.4)	220 (1.1)
Indiana	39 (1.5)	220 (1.4)	61 (1.5)	220 (1.2)
Iowa	46 (1.8)	230 (1.3)	54 (1.8)	228 (1.1)
Kentucky	66 (1.4)	215 (1.2)	34 (1.4)	211 (1.6)
Louisiana	45 (1.7)	205 (1.8)	55 (1.7)	202 (1.6)
Maine	50 (2.2)	231 (1.3)	50 (2.2)	231 (1.4)
Maryland	55 (1.7)	218 (1.9)	45 (1.7)	215 (1.3)
Massachusetts	44 (2.3)	229 (1.6)	56 (2.3)	223 (1.6)
Michigan	55 (1.7)	218 (1.8)	45 (1.7)	220 (2.1)
Minnesota	55 (1.7)	229 (1.2)	45 (1.7)	226 (1.1)
Mississippi	50 (1.9)	200 (1.6)	50 (1.9)	200 (1.4)
Missouri	41 (1.7)	222 (1.9)	59 (1.7)	221 (1.3)
Nebraska	46 (1.7)	226 (1.7)	54 (1.7)	223 (1.3)
New Hampshire	43 (1.8)	230 (1.5)	57 (1.8)	228 (1.3)
New Jersey	49 (2.3)	229 (1.8)	51 (2.3)	224 (1.7)
New Mexico	34 (1.3)	211 (2.1)	66 (1.3)	213 (1.6)
New York	39 (2.1)	217 (1.9)	61 (2.1)	218 (1.5)
North Carolina	51 (1.4)	213 (1.4)	49 (1.4)	211 (1.2)
North Dakota	42 (2.3)	227 (1.3)	58 (2.3)	228 (0.9)
Ohio	49 (1.7)	218 (1.4)	51 (1.7)	218 (1.4)
Oklahoma	34 (1.4)	218 (1.6)	66 (1.4)	220 (1.1)
Pennsylvania	53 (1.7)	224 (1.6)	47 (1.7)	223 (1.6)
Rhode Island	37 (2.0)	213 (2.1)	63 (2.0)	215 (1.6)
South Carolina	45 (1.4)	210 (1.3)	55 (1.4)	212 (1.4)
Tennessee	36 (1.3)	209 (1.5)	64 (1.3)	210 (1.5)
Texas	50 (1.7)	218 (1.5)	50 (1.7)	217 (1.6)
Utah	44 (1.9)	223 (1.5)	56 (1.9)	223 (1.2)
Virginia	41 (1.5)	220 (1.6)	59 (1.5)	220 (1.6)
West Virginia	47 (1.6)	214 (1.3)	53 (1.6)	214 (1.2)
Wisconsin	58 (2.1)	228 (1.2)	42 (2.1)	228 (1.5)
Wyoming	46 (2.0)	225 (1.1)	54 (2.0)	224 (1.2)
TERRITORY				
Guam	39 (1.2)	186 (1.6)	61 (1.2)	195 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 10.9 | Students' Reports on Having a Calculator to Use for Mathematics Schoolwork (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	81 (1.0)	269 (1.1)	19 (1.0)	255 (1.3)
Northeast	78 (2.6)	270 (3.4)	22 (2.6)	262 (4.2)
Southeast	75 (2.1)	261 (1.2)	25 (2.1)	248 (2.4)
Central	87 (1.7)	275 (2.4)	13 (1.7)	261 (2.0)
West	82 (2.1)	270 (2.3)	18 (2.1)	254 (2.1)
STATES				
Alabama	77 (1.4)	253 (1.8)	23 (1.4)	245 (2.2)
Arizona	75 (1.5)	268 (1.3)	25 (1.5)	256 (2.0)
Arkansas	74 (1.2)	258 (1.3)	26 (1.2)	248 (1.8)
California	81 (1.2)	264 (1.7)	19 (1.2)	244 (2.3)
Colorado	85 (1.0)	274 (1.1)	15 (1.0)	261 (1.9)
Connecticut	81 (1.3)	277 (1.0)	19 (1.3)	258 (2.5)
Delaware	83 (0.6)	265 (1.2)	17 (0.6)	250 (2.0)
Dist. Columbia	77 (1.0)	236 (1.0)	23 (1.0)	229 (2.3)
Florida	74 (1.4)	264 (1.4)	26 (1.4)	246 (2.2)
Georgia	78 (1.3)	261 (1.2)	22 (1.3)	251 (1.8)
Hawaii	74 (1.1)	261 (1.1)	26 (1.1)	245 (1.6)
Idaho	84 (0.9)	276 (0.8)	16 (0.9)	264 (1.7)
Indiana	81 (1.1)	271 (1.2)	19 (1.1)	262 (2.1)
Iowa	88 (1.4)	284 (1.0)	12 (1.4)	275 (2.5)
Kentucky	86 (0.9)	264 (1.2)	14 (0.9)	249 (2.3)
Louisiana	74 (1.5)	252 (1.8)	26 (1.5)	243 (1.9)
Maine	89 (0.9)	279 (1.0)	11 (0.9)	267 (2.8)
Maryland	81 (1.4)	268 (1.2)	19 (1.4)	251 (2.1)
Massachusetts	73 (1.5)	276 (1.1)	27 (1.5)	262 (1.7)
Michigan	87 (1.0)	269 (1.4)	13 (1.0)	252 (2.3)
Minnesota	90 (1.1)	283 (0.9)	10 (1.1)	271 (2.5)
Mississippi	67 (1.4)	248 (1.3)	33 (1.4)	242 (1.7)
Missouri	89 (1.1)	272 (1.2)	11 (1.1)	258 (2.4)
Nebraska	90 (1.0)	278 (1.2)	10 (1.0)	273 (2.2)
New Hampshire	86 (1.1)	279 (1.0)	14 (1.1)	270 (2.1)
New Jersey	80 (1.3)	275 (1.4)	20 (1.3)	256 (3.0)
New Mexico	78 (1.4)	261 (0.9)	22 (1.4)	251 (1.5)
New York	72 (1.4)	270 (1.7)	28 (1.4)	256 (3.1)
North Carolina	77 (1.0)	260 (1.1)	23 (1.0)	250 (2.1)
North Dakota	88 (1.4)	283 (1.2)	12 (1.4)	278 (2.7)
Ohio	83 (1.1)	270 (1.6)	17 (1.1)	256 (2.7)
Oklahoma	73 (1.6)	269 (1.2)	27 (1.6)	265 (1.6)
Pennsylvania	79 (1.4)	274 (1.4)	21 (1.4)	261 (2.3)
Rhode Island	80 (1.0)	267 (0.9)	20 (1.0)	257 (2.2)
South Carolina	79 (1.1)	263 (1.0)	21 (1.1)	251 (2.0)
Tennessee	77 (1.6)	261 (1.5)	23 (1.6)	248 (2.0)
Texas	80 (1.2)	267 (1.5)	20 (1.2)	252 (1.9)
Utah	84 (0.9)	275 (0.8)	16 (0.9)	267 (1.8)
Virginia	80 (1.0)	269 (1.2)	20 (1.0)	259 (2.0)
West Virginia	80 (1.4)	260 (1.1)	20 (1.4)	252 (1.8)
Wisconsin	89 (1.1)	279 (1.3)	11 (1.1)	266 (3.9)
Wyoming	88 (1.0)	276 (0.9)	12 (1.0)	267 (2.4)
TERRITORIES				
Guam	60 (1.2)	240 (1.5)	40 (1.2)	228 (1.4)
Virgin Islands	62 (1.1)	225 (1.3)	38 (1.1)	217 (1.5)

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TABLE 10.10 Students' Reports on Their Use of Scientific Calculators, Grades 8 and 12

		Student Ever Used Scientific Calculator			
		Yes		No	
	Assessment Years	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 8	1992	64 (1.2)>	273 (1.0)>	36 (1.2)<	259 (1.1)
	1990	54 (1.7)	267 (1.5)	46 (1.7)	258 (1.3)
Grade 12 - All Students	1992	83 (0.8)>	305 (0.9)>	17 (0.8)<	270 (1.2)
	1990	81 (0.8)	301 (1.1)	19 (0.8)	268 (2.1)
Grade 12 - Taking Math	1992	88 (0.7)	311 (0.9)	12 (0.7)	271 (1.5)
	1990	86 (1.1)	309 (1.3)	14 (1.1)	271 (2.7)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.11 | Students' Reports on Their Use of Scientific Calculators

	Grade 8 - 1992				Grade 8 - 1990			
	Yes		No		Yes		No	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	64 (1.3)	272 (1.1)	36 (1.3)	257 (1.3)	55 (1.8)	267 (1.6)	45 (1.8)	257 (1.4)
Northeast	59 (3.7)	275 (2.9)	41 (3.7)	258 (3.9)	49 (3.9)	273 (4.8)	51 (3.9)	267 (2.5)
Southeast	61 (2.1)	264 (1.4)	39 (2.1)	249 (1.2)	56 (3.5)	259 (3.1)	44 (3.5)	249 (3.1)
Central	71 (3.1)	276 (2.5)	29 (3.1)	265 (2.4)	58 (3.8)	267 (2.7)	42 (3.8)	262 (2.5)
West	65 (1.6)	271 (2.2)	35 (1.6)	259 (2.6)	55 (3.2)	268 (3.1)	46 (3.2)	252 (2.4)
STATES								
Alabama	67 (1.8)	255 (1.9)	33 (1.8)	243 (2.1)<	63 (1.1)	254 (1.2)	37 (1.1)	251 (1.5)
Arizona	58 (1.6)>	271 (1.5)>	42 (1.6)<	257 (1.6)	52 (1.3)	265 (1.6)	48 (1.3)	254 (1.4)
Arkansas	64 (1.3)>	258 (1.4)	36 (1.3)<	250 (1.5)	60 (1.3)	258 (1.1)	40 (1.3)	254 (1.1)
California	57 (1.5)	266 (1.8)	43 (1.5)	252 (2.0)	55 (1.4)	263 (1.6)	45 (1.4)	249 (1.5)
Colorado	64 (1.9)>	277 (1.3)>	36 (1.9)<	263 (1.3)	59 (1.6)	272 (1.1)	41 (1.6)	261 (1.3)
Connecticut	67 (1.6)»	278 (1.2)>	33 (1.6)«	263 (1.9)	60 (1.0)	274 (1.3)	40 (1.0)	264 (1.2)
Delaware	75 (1.1)»	266 (0.9)	25 (1.1)«	253 (1.8)	63 (1.2)	265 (1.5)	37 (1.2)	254 (1.4)
Dist. Columbia	86 (0.9)»	237 (1.0)	14 (0.9)«	219 (2.5)	79 (1.0)	234 (1.0)	21 (1.0)	225 (1.3)
Florida	71 (1.4)»	263 (1.5)	29 (1.4)«	249 (2.0)	59 (1.2)	259 (1.5)	41 (1.2)	251 (1.4)
Georgia	63 (1.3)	262 (1.4)	37 (1.3)	254 (1.6)	63 (1.3)	261 (1.9)	37 (1.3)	256 (1.5)
Hawaii	58 (1.0)»	264 (1.0)»	42 (1.0)«	247 (1.4)	45 (0.8)	256 (1.2)	55 (0.8)	248 (1.0)
Idaho	69 (1.6)»	278 (0.8)»	31 (1.6)«	265 (1.3)	59 (1.3)	274 (0.9)	42 (1.3)	268 (1.2)
Indiana	56 (1.5)<	274 (1.4)	44 (1.5)>	263 (1.3)	61 (1.4)	271 (1.3)	39 (1.4)	262 (1.3)
Iowa	63 (2.1)»	285 (1.2)>	37 (2.1)«	279 (1.4)	53 (1.6)	281 (1.1)	47 (1.6)	274 (1.4)
Kentucky	74 (1.9)»	266 (1.3)>	26 (1.9)«	250 (1.5)	60 (1.4)	261 (1.2)	40 (1.4)	252 (1.4)
Louisiana	58 (1.6)	253 (1.7)>	42 (1.6)	244 (2.0)	54 (1.2)	248 (1.5)	46 (1.2)	246 (1.4)
Maine	74 (2.0)	281 (1.1)	26 (2.0)	269 (1.8)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	72 (1.4)»	269 (1.5)	28 (1.4)«	254 (2.2)	65 (1.1)	265 (1.5)	35 (1.1)	254 (1.8)
Massachusetts	54 (1.9)	280 (1.3)	46 (1.9)	263 (1.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	68 (2.0)»	271 (1.9)	32 (2.0)«	258 (1.7)	59 (1.5)	269 (1.3)	41 (1.5)	260 (1.5)
Minnesota	72 (2.1)»	285 (1.0)»	28 (2.1)«	273 (1.6)	57 (1.7)	280 (1.0)	43 (1.7)	270 (1.1)
Mississippi	59 (1.3)	247 (1.3)	41 (1.3)	244 (1.5)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	69 (1.9)	274 (1.2)	31 (1.9)	264 (1.7)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	68 (2.2)»	280 (1.2)	32 (2.2)«	270 (1.8)	56 (1.6)	279 (1.3)	44 (1.6)	272 (1.4)
New Hampshire	63 (1.9)	282 (1.3)>	37 (1.9)	270 (1.1)	62 (1.3)	277 (1.4)	38 (1.3)	269 (1.1)
New Jersey	66 (2.2)»	275 (1.8)	34 (2.2)«	264 (2.0)	58 (1.2)	273 (1.5)	42 (1.2)	267 (1.2)
New Mexico	59 (1.5)>	263 (1.1)	41 (1.5)<	253 (1.1)	54 (1.1)	261 (1.1)	46 (1.1)	252 (1.0)
New York	50 (1.6)	271 (2.4)	50 (1.6)	261 (2.1)	52 (1.2)	266 (1.6)	48 (1.2)	257 (1.7)
North Carolina	67 (1.4)>	262 (1.4)»	33 (1.4)<	249 (1.6)	63 (1.2)	253 (1.4)	37 (1.2)	246 (1.2)
North Dakota	72 (1.7)»	284 (1.2)	28 (1.7)«	278 (1.7)	61 (1.7)	284 (1.2)	39 (1.7)	277 (1.6)
Ohio	70 (2.1)>	270 (1.5)	30 (2.1)<	261 (2.5)	63 (1.4)	267 (1.4)	37 (1.4)	260 (1.3)
Oklahoma	56 (1.2)	271 (1.4)>	44 (1.2)	263 (1.4)	57 (1.3)	266 (1.6)	43 (1.3)	260 (1.3)
Pennsylvania	64 (2.1)	274 (1.5)	36 (2.1)	265 (2.0)	59 (1.2)	270 (1.8)	41 (1.2)	262 (1.8)
Rhode Island	63 (1.0)»	269 (0.9)»	37 (1.0)«	259 (1.0)	53 (0.9)	264 (1.0)	47 (0.9)	257 (0.9)
South Carolina	67 (1.5)	263 (1.2)	33 (1.5)	253 (1.3)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	62 (1.3)	260 (1.7)	38 (1.3)	255 (1.5)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	73 (1.9)»	268 (1.6)	27 (1.9)«	253 (1.8)	63 (1.3)	264 (1.6)	37 (1.3)	250 (1.4)
Utah	67 (1.5)	277 (0.8)	33 (1.5)	267 (1.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	60 (1.2)	270 (1.3)	40 (1.2)	263 (1.5)	62 (1.3)	267 (1.9)	38 (1.3)	261 (1.5)
West Virginia	60 (1.7)	262 (1.2)	40 (1.7)	253 (1.3)	58 (0.9)	259 (1.1)	42 (0.9)	252 (1.3)
Wisconsin	78 (2.2)»	280 (1.5)	22 (2.2)«	267 (2.5)	62 (1.7)	278 (1.6)	38 (1.7)	270 (1.6)
Wyoming	65 (1.5)>	278 (1.1)	35 (1.5)<	268 (1.2)	60 (0.9)	277 (0.8)	40 (0.9)	266 (1.0)
TERRITORIES								
Guam	48 (1.4)	240 (1.5)	52 (1.4)	231 (1.2)	48 (1.3)	239 (1.1)	52 (1.3)	227 (1.1)
Virgin Islands	63 (1.2)»	226 (1.2)>	37 (1.2)«	214 (1.6)	49 (1.6)	221 (1.2)	51 (1.6)	217 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 10.12 Teachers' Reports on the Frequency of Use of Calculators in Mathematics Class, Grades 4 and 8

		At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Assessment Years	Percent of Students	·Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	17 (2.0)	222 (3.0)	32 (2.0)	221 (1.5)	51 (2.5)	215 (1.3)
	1990	18 (3.2)	219 (2.9)	36 (3.3)	217 (2.0)	46 (3.3)	211 (1.7)
High ability	1992	38 (8.7)	246 (6.4)	17 (5.4)	236 (4.9)	46 (8.0)	232 (3.2)
	1990	26 (7.9)	242 (8.2)	40 (9.0)	244 (7.1)	34 (9.8)	223 (7.1)
Average ability	1992	13 (2.4)	227 (4.2)	33 (3.2)	225 (2.3)>	54 (4.1)	218 (1.6)
	1990	13 (3.7)	217 (6.3)	44 (5.7)	214 (2.7)	43 (5.6)	215 (2.7)
Low ability	1992	17 (3.5)	189 (7.6)	28 (4.1)	197 (4.7)	55 (4.5)	197 (2.8)
	1990	14 (5.2)	196 (9.0)	29 (7.6)	209 (7.9)	58 (8.6)	199 (4.2)
Mixed ability	1992	16 (3.2)	216 (3.4)	36 (3.6)	220 (1.6)	48 (2.8)	215 (1.8)
	1990	23 (6.6)	218 (4.0)	30 (4.7)	214 (3.6)	47 (5.9)	209 (2.0)
Grade 8							
Nation	1992	56 (2.8)>	275 (1.4)	20 (2.0)<	258 (2.2)	24 (2.4)	264 (1.9)
	1990	42 (4.3)	269 (2.8)	37 (4.0)	259 (2.2)	20 (3.8)	260 (3.7)
High ability	1992	70 (3.7)>	302 (1.9)	11 (2.0)<	299 (4.6)>	19 (3.1)	292 (4.2)
	1990	43 (4.5)	295 (3.0)	37 (5.3)	283 (3.8)	20 (4.7)	282 (7.5)
Average ability	1992	56 (4.2)>	269 (1.8)	20 (2.7)<	260 (3.1)	24 (3.1)	264 (2.4)
	1990	38 (5.4)	266 (3.8)	40 (5.2)	257 (2.7)	22 (4.7)	256 (5.9)
Low ability	1992	46 (4.7)	350 (3.0)	34 (6.7)	240 (6.4)	21 (5.0)	238 (3.7)
	1990	35 (6.2)	247 (6.0)	42 (6.4)	244 (4.7)	23 (6.4)	240 (5.7)
Mixed ability	1992	48 (5.1)	264 (1.9)	21 (4.8)	256 (2.1)	30 (4.2)	260 (3.1)
	1990	48 (9.7)	262 (4.6)	33 (8.1)	248 (4.9)	19 (6.8)	258 (6.2)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.13 Students' Reports on the Frequency of Use of Calculators in Mathematics Class, Grades 4, 8, and 12

	Assessment Years	At least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	**1992**	21 (1.0)	216 (1.8)>	21 (1.2)	227 (1.1)	58 (1.6)	217 (0.8)>
	1990	19 (1.9)	207 (2.5)	17 (1.2)	224 (2.1)	64 (2.4)	213 (1.1)
Grade 8	**1992**	53 (2.0)>	273 (1.2)>	17 (0.8)	265 (1.5)	30 (1.5)<	260 (1.5)
	1990	40 (2.9)	266 (2.2)	20 (1.2)	265 (1.8)	40 (2.9)	258 (1.3)
Grade 12 - All Students	**1992**	74 (1.1)>	304 (0.9)>	9 (0.4)	285 (1.6)	17 (1.0)<	282 (1.4)
	1990	65 (1.5)	300 (1.3)	11 (0.6)	292 (2.5)	24 (1.3)	282 (1.7)
Grade 12 - Taking Math	**1992**	82 (1.1)>	310 (1.0)	7 (0.6)	293 (2.4)<	11 (0.9)<	287 (2.1)
	1990	75 (1.5)	307 (1.5)	9 (0.9)	305 (2.7)	16 (1.3)	288 (3.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.14 | Teachers' Reports on the Frequency of Use of Calculators in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	18 (2.3)	222 (3.1)	34 (2.1)	220 (1.6)	48 (2.9)	213 (1.5)
Northeast	22 (4.8)	225 (5.5)!	21 (4.7)	220 (7.5)!	57 (6.6)	218 (3.7)
Southeast	17 (4.6)	212 (7.1)!	26 (3.3)	211 (2.8)	57 (4.8)	205 (2.4)
Central	13 (5.1)	232 (5.2)!	45 (3.4)	224 (1.9)	41 (6.8)	221 (2.7)
West	21 (3.8)	221 (6.8)	40 (5.3)	221 (2.9)	39 (4.4)	213 (2.6)
STATES						
Alabama	22 (3.4)	213 (2.9)	33 (3.6)	208 (2.8)	45 (4.6)	204 (1.8)
Arizona	15 (2.7)	217 (2.9)	27 (2.7)	219 (2.1)	58 (3.2)	211 (1.6)
Arkansas	8 (2.4)	213 (4.0)!	25 (3.3)	211 (2.3)	67 (3.3)	208 (1.2)
California	34 (4.1)	215 (2.9)	39 (3.4)	204 (2.3)	27 (3.4)	202 (3.3)
Colorado	31 (2.7)	223 (2.1)	38 (2.8)	221 (2.1)	31 (3.1)	217 (2.1)
Connecticut	29 (3.3)	234 (2.1)	40 (3.4)	228 (1.7)	31 (3.6)	221 (3.0)
Delaware	24 (0.9)	220 (1.4)	38 (0.8)	218 (1.6)	38 (0.7)	215 (1.6)
Dist. Columbia	59 (1.0)	192 (1.0)	28 (0.9)	191 (1.5)	13 (0.6)	185 (2.1)
Florida	21 (2.4)	218 (2.5)	36 (3.0)	213 (1.8)	43 (3.4)	209 (2.0)
Georgia	14 (3.0)	220 (5.0)!	33 (3.1)	215 (2.6)	52 (4.6)	211 (1.7)
Hawaii	35 (2.8)	217 (1.9)	40 (2.7)	212 (1.9)	25 (3.0)	208 (2.1)
Idaho	28 (3.2)	223 (1.9)	39 (3.3)	221 (1.5)	33 (3.6)	218 (1.3)
Indiana	12 (2.1)	226 (3.7)	31 (3.2)	221 (1.5)	57 (4.0)	217 (1.4)
Iowa	18 (2.6)	233 (2.1)	44 (3.8)	230 (1.7)	38 (3.8)	226 (1.7)
Kentucky	47 (3.8)	216 (1.5)	36 (3.9)	211 (1.6)	16 (3.1)	210 (2.8)!
Louisiana	18 (3.2)	207 (3.7)	20 (2.5)	211 (2.3)	62 (4.2)	199 (1.9)
Maine	23 (3.2)	233 (2.6)	41 (3.6)	232 (1.3)	35 (3.8)	227 (1.8)
Maryland	39 (3.8)	224 (2.2)	36 (3.0)	220 (2.1)	25 (3.1)	206 (2.9)
Massachusetts	18 (2.6)	236 (2.3)	35 (3.4)	231 (2.2)	48 (4.1)	220 (1.7)
Michigan	38 (4.1)	219 (2.7)	43 (3.7)	219 (2.7)	19 (3.0)	218 (3.5)
Minnesota	28 (3.7)	230 (2.5)	42 (3.8)	226 (1.6)	30 (3.4)	225 (1.6)
Mississippi	16 (3.1)	209 (3.1)!	29 (3.5)	201 (2.8)	55 (4.4)	197 (1.8)
Missouri	14 (2.6)	228 (4.0)	32 (3.5)	224 (1.8)	54 (3.9)	219 (1.9)
Nebraska	22 (3.2)	232 (2.5)	42 (4.7)	225 (2.2)	36 (4.0)	221 (1.5)
New Hampshire	25 (3.4)	237 (2.2)	30 (3.5)	229 (1.9)	44 (3.8)	225 (1.5)
New Jersey	26 (3.3)	236 (2.7)	28 (3.3)	231 (2.5)	46 (4.4)	220 (2.6)
New Mexico	9 (2.5)	211 (2.2)!	25 (3.0)	215 (2.1)	66 (3.5)	211 (1.7)
New York	14 (2.0)	226 (3.1)	19 (3.1)	222 (3.3)	67 (3.9)	214 (1.6)
North Carolina	21 (2.4)	213 (2.9)	39 (2.9)	213 (2.0)	40 (3.4)	211 (1.8)
North Dakota	14 (2.6)	229 (1.9)	38 (4.5)	226 (1.4)	48 (4.6)	229 (1.5)
Ohio	19 (3.2)	222 (3.4)	35 (3.8)	219 (1.8)	46 (4.3)	214 (1.9)
Oklahoma	8 (2.2)	227 (4.3)!	16 (2.9)	221 (2.6)	76 (3.3)	218 (1.1)
Pennsylvania	18 (3.2)	232 (2.9)	34 (3.7)	227 (2.1)	48 (3.8)	217 (2.0)
Rhode Island	18 (2.7)	223 (3.3)	29 (3.7)	216 (2.9)	53 (4.3)	210 (2.4)
South Carolina	15 (2.1)	219 (2.9)	33 (3.4)	214 (1.8)	51 (3.6)	208 (1.5)
Tennessee	7 (1.9)	208 (6.1)!	22 (2.6)	215 (2.8)	70 (3.1)	209 (1.6)
Texas	24 (3.7)	225 (2.6)	38 (3.3)	219 (2.0)	38 (4.6)	210 (2.8)
Utah	21 (3.2)	228 (2.4)	30 (2.9)	221 (1.5)	49 (3.8)	222 (1.5)
Virginia	14 (2.3)	229 (3.7)	36 (3.4)	224 (2.2)	50 (3.7)	214 (2.0)
West Virginia	24 (3.0)	217 (2.0)	32 (3.2)	213 (1.9)	45 (3.4)	212 (1.9)
Wisconsin	34 (3.7)	231 (2.0)	37 (3.6)	228 (2.1)	29 (3.8)	225 (1.7)
Wyoming	24 (3.1)	226 (1.7)	43 (3.5)	225 (1.6)	32 (2.8)	223 (1.5)
TERRITORY						
Guam	10 (0.8)	189 (3.0)	22 (1.1)	199 (1.6)	68 (1.1)	189 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 10.14 | Teachers' Reports on the Frequency of Use of Calculators in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	56 (3.0)	274 (1.5)	21 (2.2)	257 (2.3)	23 (2.5)	263 (2.2)
Northeast	55 (6.5)	272 (3.8)	22 (4.6)	264 (5.9)!	23 (3.9)	260 (6.3)
Southeast	43 (4.6)	270 (1.6)	24 (4.4)	250 (3.4)	33 (5.9)	260 (3.3)
Central	64 (7.6)	281 (2.5)	25 (6.3)	258 (4.5)!	11 (4.7)	280 (3.4)!
West	60 (5.4)	272 (2.8)	16 (2.4)	257 (4.3)	24 (4.4)	262 (3.4)
STATES						
Alabama	45 (4.2)»	257 (2.7)	26 (4.0)	250 (2.4)	29 (4.0)	246 (4.1)
Arizona	52 (3.8)»	269 (1.8)	19 (2.9)«	263 (3.4)	29 (3.3)	258 (2.3)
Arkansas	39 (3.9)	262 (1.9)	23 (3.1)<	254 (2.4)	39 (4.0)	251 (2.2)
California	65 (4.2)	266 (2.1)	21 (3.2)<	252 (4.1)	14 (2.1)	252 (4.3)
Colorado	73 (2.6)»	275 (1.3)	11 (1.9)«	257 (3.9)	15 (2.5)	266 (2.7)
Connecticut	61 (3.3)	281 (1.2)>	29 (3.3)<	263 (3.0)	10 (1.9)	260 (6.1)
Delaware	57 (0.8)»	262 (1.4)	23 (0.9)	263 (1.9)	19 (0.7)«	261 (2.0)
Dist. Columbia	61 (1.1)	235 (1.5)>	28 (1.1)«	238 (2.4)	12 (0.6)>	228 (3.8)<
Florida	50 (3.6)»	269 (2.1)	20 (3.1)«	254 (3.0)	30 (3.2)	248 (2.5)
Georgia	52 (3.3)	262 (2.0)	30 (2.6)	254 (2.1)	18 (2.4)	254 (3.2)
Hawaii	42 (0.9)»	265 (1.4)	34 (0.9)	257 (1.2)>	24 (0.8)«	246 (2.0)
Idaho	73 (2.3)»	277 (0.9)	12 (2.4)«	273 (2.2)!	15 (2.1)<	267 (2.1)
Indiana	39 (3.4)>	272 (2.2)	27 (3.4)«	269 (1.8)	34 (3.2)	268 (2.4)
Iowa	68 (4.2)	285 (1.1)»	20 (3.7)<	277 (3.0)!	11 (2.6)	279 (3.2)!
Kentucky	73 (2.9)»	266 (1.5)	19 (2.9)<	253 (3.2)	9 (2.0)«	251 (3.9)!
Louisiana	38 (4.0)»	256 (2.9)	25 (3.1)<	244 (3.1)	37 (3.9)	247 (2.2)
Maine	79 (3.9)	279 (1.2)	17 (3.5)	275 (2.8)!	4 (1.7)	281 (6.2)!
Maryland	61 (3.8)»	272 (2.0)	26 (3.1)«	259 (2.8)	14 (2.1)	248 (4.1)
Massachusetts	35 (3.5)	279 (2.2)	19 (2.7)	272 (3.2)	46 (3.8)	267 (1.6)
Michigan	76 (3.2)»	269 (1.9)	15 (2.6)«	256 (4.8)	9 (2.0)<	266 (4.9)!
Minnesota	77 (3.8)»	283 (1.2)>	15 (3.2)«	278 (2.2)!	8 (2.2)	271 (4.1)!
Mississippi	25 (3.2)	252 (3.4)	22 (3.6)	244 (4.2)	53 (4.1)	243 (1.8)
Missouri	78 (3.8)	273 (1.1)	11 (2.2)	259 (4.2)!	11 (2.9)	271 (2.9)!
Nebraska	66 (4.9)	280 (1.5)	19 (2.8)	269 (2.5)	15 (3.6)	276 (2.5)!
New Hampshire	62 (3.4)	279 (1.3)>	22 (3.2)<	275 (2.0)>	15 (2.6)	274 (2.9)
New Jersey	51 (4.2)»	276 (1.9)	25 (3.9)<	271 (3.6)	23 (3.0)<	261 (4.2)
New Mexico	44 (3.4)»	265 (1.4)	27 (3.3)«	258 (1.5)	29 (3.6)	253 (2.0)
New York	25 (3.4)	272 (3.3)>	32 (3.1)	269 (2.7)	43 (3.9)	259 (4.2)
North Carolina	42 (3.3)>	262 (1.7)>	34 (2.9)«	256 (1.8)	24 (2.7)	250 (2.9)
North Dakota	68 (4.5)>	284 (1.4)	10 (2.9)«	284 (3.1)!	21 (3.4)	280 (2.0)
Ohio	49 (4.2)	273 (2.6)	23 (3.3)	263 (3.4)	29 (4.4)	269 (4.1)
Oklahoma	33 (4.1)	270 (2.2)	23 (3.4)	267 (2.4)	44 (4.3)	266 (1.8)
Pennsylvania	46 (4.2)>	276 (2.2)	24 (2.9)<	267 (2.7)	30 (3.4)	267 (2.6)
Rhode Island	47 (0.8)»	269 (1.2)»	18 (0.5)«	261 (2.5)	36 (0.8)«	261 (1.0)
South Carolina	47 (3.5)	268 (1.8)	29 (3.0)	254 (1.9)	24 (2.7)	254 (3.2)
Tennessee	37 (4.3)	265 (2.3)	23 (3.1)	256 (2.6)	41 (4.1)	253 (2.2)
Texas	64 (3.5)»	269 (1.9)	24 (3.0)«	256 (3.0)	13 (2.0)	260 (2.4)»
Utah	77 (3.0)	275 (1.0)	8 (1.4)	266 (3.5)	15 (2.3)	269 (2.4)
Virginia	40 (3.3)	274 (2.1)	30 (2.6)	263 (1.9)	31 (2.6)	263 (2.3)
West Virginia	43 (4.0)»	264 (1.7)	27 (3.7)	254 (1.8)	30 (3.5)	255 (1.9)
Wisconsin	83 (3.2)>	280 (1.7)	11 (2.1)<	273 (3.3)	6 (2.2)	270 (4.3)!
Wyoming	73 (3.2)»	277 (0.9)	12 (2.2)«	268 (2.6)	16 (2.5)	270 (2.2)
TERRITORIES						
Guam	26 (1.0)>	244 (2.1)	27 (1.2)>	224 (2.3)	47 (1.3)«	236 (1.4)>
Virgin Islands	39 (1.0)»	227 (1.5)>	23 (0.7)«	217 (1.7)«	38 (1.2)«	217 (2.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 10.14 | Teachers' Reports on the Frequency of Use of Calculators in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	43 (4.6)	269 (2.9)	38 (4.3)	258 (2.3)	18 (4.0)	258 (4.6)!
Northeast	23(12.6)	281(12.5)!	42(11.0)	263 (7.4)!	35(13.3)	272 (5.1)!
Southeast	34 (9.4)	262 (6.5)!	44 (9.8)	260 (3.4)!	22 (9.1)	245 (9.1)!
Central	49 (8.0)	271 (3.7)	35 (7.3)	253 (5.6)!	16 (7.3)	259(10.8)!
West	57 (7.5)	268 (5.3)	35 (7.2)	258 (3.6)!	9 (4.3)	255 (6.1)!
STATES						
Alabama	25 (3.4)	255 (2.8)	35 (3.7)	252 (2.0)	40 (4.2)	253 (1.9)
Arizona	33 (3.1)	260 (3.1)	36 (2.6)	259 (1.9)	31 (2.9)	260 (2.1)
Arkansas	26 (3.8)	261 (2.9)	39 (4.5)	257 (1.8)	35 (4.3)	255 (2.0)
California	59 (3.7)	264 (1.9)	33 (3.2)	245 (2.6)	8 (1.8)	253 (6.6)!
Colorado	56 (3.2)	271 (1.3)	32 (3.1)	261 (1.7)	12 (2.5)	264 (4.2)!
Connecticut	51 (3.6)	276 (1.8)	41 (3.3)	265 (2.1)	8 (1.4)	268 (4.1)
Delaware	48 (1.4)	259 (1.6)	26 (1.4)	264 (2.1)	26 (0.7)	261 (1.9)
Dist. Columbia	57 (1.0)	229 (1.1)	33 (1.0)	237 (1.8)	9 (0.6)	241 (2.1)
Florida	31 (3.1)	261 (3.3)	43 (2.8)	256 (1.9)	26 (2.4)	251 (2.4)
Georgia	45 (3.6)	264 (1.9)	36 (3.3)	255 (2.0)	19 (3.2)	249 (3.4)
Hawaii	18 (0.8)	264 (1.7)	34 (0.8)	251 (1.5)	48 (1.0)	247 (1.1)
Idaho	47 (1.4)	274 (1.2)	29 (1.9)	268 (1.8)	25 (2.1)	271 (1.4)
Indiana	25 (3.5)	270 (3.1)	47 (3.2)	267 (1.7)	29 (3.2)	267 (2.1)
Iowa	56 (4.5)	278 (1.6)	35 (4.5)	278 (1.7)	9 (2.7)	276 (4.1)!
Kentucky	31 (3.8)	261 (2.1)	33 (3.9)	254 (1.9)	37 (4.1)	257 (2.2)
Louisiana	19 (3.2)	249 (2.8)	38 (4.4)	249 (2.0)	43 (4.1)	243 (2.0)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	37 (2.8)	270 (2.0)	45 (3.6)	258 (2.8)	18 (2.8)	253 (3.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	40 (3.8)	273 (2.0)	42 (3.1)	260 (2.3)	18 (2.9)	258 (2.8)
Minnesota	56 (4.0)	279 (1.2)	34 (3.8)	271 (2.0)	10 (2.7)	275 (2.5)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	55 (3.1)	280 (1.4)	24 (2.4)	272 (2.0)	21 (3.5)	271 (2.7)
New Hampshire	58 (1.2)	275 (1.2)	31 (1.1)	269 (1.3)	12 (0.8)	273 (2.7)
New Jersey	21 (2.8)	276 (3.1)	39 (3.4)	272 (2.3)	40 (3.9)	263 (2.1)
New Mexico	30 (1.3)	261 (1.6)	43 (1.3)	256 (1.2)	27 (1.3)	254 (1.1)
New York	16 (2.8)	257 (3.6)	35 (3.2)	268 (2.2)	49 (3.8)	256 (2.7)
North Carolina	30 (3.1)	254 (2.8)	51 (3.1)	251 (1.8)	19 (2.9)	245 (3.1)
North Dakota	51 (3.0)	282 (1.6)	27 (3.2)	281 (2.8)	22 (3.0)	281 (2.2)
Ohio	44 (4.1)	266 (2.4)	35 (3.8)	264 (2.2)	21 (3.3)	267 (2.7)
Oklahoma	27 (4.0)	268 (2.6)	35 (4.1)	264 (2.2)	38 (3.9)	260 (2.2)
Pennsylvania	28 (3.5)	271 (2.6)	36 (3.2)	267 (2.8)	36 (4.1)	265 (2.2)
Rhode Island	23 (0.8)	260 (1.5)	32 (0.9)	263 (1.4)	44 (1.2)	259 (1.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	31 (4.1)	264 (2.6)	48 (3.5)	256 (1.7)	20 (2.9)	244 (3.3)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	36 (3.1)	274 (3.1)	38 (3.0)	258 (1.9)	27 (3.3)	257 (2.9)
West Virginia	24 (3.0)	262 (2.8)	39 (3.3)	257 (1.8)	37 (3.6)	253 (1.9)
Wisconsin	65 (4.2)	277 (1.7)	26 (3.9)	273 (3.1)	9 (2.5)	268 (3.7)
Wyoming	54 (1.5)	274 (1.0)	29 (1.1)	270 (1.4)	17 (1.2)	272 (1.2)
TERRITORIES						
Guam	22 (0.7)	241 (2.4)	23 (0.4)	230 (1.7)	55 (0.7)	231 (1.1)
Virgin Islands	17 (1.0)	221 (1.9)	37 (0.6)	228 (1.6)	46 (1.0)	214 (1.3)

TABLE 10.15 | Students' Reports on the Frequency of Use of Calculators in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (1.2)	215 (1.9)	21 (1.4)	227 (1.2)	57 (1.9)	215 (1.0)
Northeast	23 (2.0)	222 (4.2)	25 (3.3)	232 (3.4)	52 (3.8)	220 (2.6)
Southeast	22 (2.0)	204 (4.4)	14 (1.2)	219 (2.6)	64 (3.0)	209 (2.0)
Central	19 (2.3)	220 (3.0)	26 (3.8)	230 (1.6)	55 (4.6)	220 (2.5)
West	23 (2.4)	215 (4.4)	22 (2.1)	224 (2.1)	55 (3.1)	216 (1.4)
STATES						
Alabama	28 (2.0)	202 (2.0)	17 (1.2)	217 (2.5)	56 (2.5)	207 (1.8)
Arizona	21 (1.5)	210 (2.1	17 (1.1)	222 (2.0)	62 (1.9)	213 (1.3)
Arkansas	20 (1.7)	203 (2.1)	10 (0.9)	213 (2.5)	70 (2.1)	210 (1.0)
California	29 (1.9)	204 (3.2)	24 (1.5)	211 (2.5)	47 (2.6)	208 (1.6)
Colorado	27 (1.5)	216 (1.7)	26 (1.3)	230 (1.5)	47 (2.1)	217 (1.3)
Connecticut	30 (1.7)	225 (1.8)	22 (1.3)	231 (1.6)	48 (2.3)	224 (1.6)
Delaware	31 (1.0)	211 (1.7)	19 (0.9)	228 (1.7)	50 (1.2)	216 (1.2)
Dist. Columbia	61 (1.1)	191 (0.8)	14 (0.7)	200 (1.8)	25 (1.0)	189 (1.4)
Florida	22 (1.4)	204 (2.4)	18 (1.1)	223 (1.9)	59 (1.9)	213 (1.7)
Georgia	21 (1.5)	205 (2.6)	17 (1.2)	224 (2.1)	62 (2.1)	215 (1.3)
Hawaii	44 (2.0)	211 (1.7)	21 (1.0)	222 (2.0)	35 (2.0)	210 (1.5)
Idaho	27 (1.9)	221 (1.8)	25 (1.4)	225 (1.2)	48 (2.3)	218 (1.3)
Indiana	18 (1.4)	215 (2.3)	17 (1.2)	227 (1.5)	65 (2.0)	219 (1.2)
Iowa	21 (1.5)	227 (2.0)	25 (1.3)	235 (1.6)	53 (2.2)	227 (1.2)
Kentucky	49 (2.4)	212 (1.4)	21 (1.2)	222 (1.2)	30 (2.1)	211 (1.7)
Louisiana	26 (1.9)	201 (2.2)	14 (1.2)	214 (2.6)	61 (2.3)	202 (1.6)
Maine	22 (2.3)	228 (2.4)	29 (1.6)	235 (1.6)	49 (2.8)	230 (1.2)
Maryland	31 (1.9)	212 (2.3)	29 (1.3)	226 (1.4)	40 (2.2)	213 (1.4)
Massachusetts	28 (2.3)	225 (2.4)	20 (1.3)	235 (1.5)	52 (2.9)	223 (1.5)
Michigan	33 (2.0)	213 (2.6)	30 (1.4)	228 (1.7)	37 (1.8)	217 (2.3)
Minnesota	24 (1.9)	225 (1.9)	25 (1.2)	234 (1.6)	51 (2.1)	226 (1.1)
Mississippi	31 (2.0)	196 (1.8)	13 (1.0)	212 (2.3)	56 (2.4)	200 (1.3)
Missouri	19 (1.5)	213 (2.3)	19 (1.3)	231 (1.7)	62 (2.2)	221 (1.4)
Nebraska	21 (2.1)	223 (2.5)	22 (1.4)	232 (2.1)	57 (2.3)	222 (1.4)
New Hampshire	22 (2.3)	230 (2.0)	23 (1.6)	237 (1.7)	55 (2.9)	225 (1.3)
New Jersey	27 (2.3)	225 (2.4)	20 (1.5)	235 (1.9)	53 (2.9)	223 (1.9)
New Mexico	16 (1.3)	204 (3.2)	11 (0.8)	219 (3.0)	74 (1.4)	213 (1.4)
New York	22 (1.9)	210 (2.4)	14 (1.2)	221 (2.2)	64 (2.6)	220 (1.3)
North Carolina	28 (1.7)	206 (1.5)	20 (1.2)	224 (1.6)	52 (2.1)	210 (1.4)
North Dakota	18 (2.1)	221 (1.9)	22 (1.8)	232 (1.4)	59 (2.6)	228 (1.0)
Ohio	24 (2.0)	214 (2.1	23 (1.5)	226 (1.7)	53 (2.6)	216 (1.4
Oklahoma	15 (1.2)	211 (2.3)	10 (0.7)	225 (2.4)	75 (1.4)	220 (1.1)
Pennsylvania	28 (2.0)	220 (2.4)	24 (1.5)	230 (2.2)	48 (2.5)	222 (1.5)
Rhode Island	23 (2.0)	211 (2.3)	16 (1.1)	223 (2.5)	61 (2.6)	213 (1.7)
South Carolina	26 (1.5)	208 (1.6)	17 (1.0)	221 (2.3)	58 (1.9)	210 (1.4)
Tennessee	17 (1.3)	201 (2.4)	13 (0.9)	214 (2.2)	70 (1.8)	211 (1.4)
Texas	28 (1.9)	214 (2.1)	22 (1.1)	229 (1.9)	50 (2.5)	214 (1.6)
Utah	25 (2.3)	220 (2.0)	20 (1.2)	228 (1.4)	55 (2.6)	222 (1.2)
Virginia	19 (1.4)	213 (2.2)	19 (1.1)	231 (2.0)	62 (1.9)	219 (1.4)
West Virginia	28 (1.7)	212 (1.5)	19 (1.2)	220 (1.6)	53 (2.3)	213 (1.4)
Wisconsin	31 (2.3)	226 (1.8)	25 (1.3)	234 (1.6)	43 (2.7)	226 (1.3)
Wyoming	26 (1.9)	222 (1.5)	26 (1.4)	230 (1.3)	48 (2.2)	222 (1.3)
TERRITORY						
Guam	26 (0.9)	178 (1.5)	12 (0.8)	189 (2.6)	62 (1.2)	198 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 10.15 | Students' Reports on the Frequency of Use of Calculators in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	53 (2.1)	272 (1.4)	18 (0.9)	263 (1.6)	29 (1.6)	259 (1.6)
Northeast	45 (4.1)	272 (4.0)	20 (2.4)	266 (3.6)	35 (2.6)	264 (5.2)
Southeast	44 (4.1)	264 (1.2)	18 (1.6)	258 (2.6)	38 (3.5)	252 (1.8)
Central	63 (5.2)	277 (2.2)	17 (2.3)	268 (3.6)	20 (3.3)	267 (3.2)
West	58 (3.6)	272 (2.8)	16 (1.2)	262 (3.5)	26 (3.4)	259 (2.5)
STATES						
Alabama	49 (3.1)»	254 (2.3)	17 (1.4)	251 (2.9)	34 (2.6)«	249 (1.9)
Arizona	49 (2.8)»	270 (1.6)»	18 (1.1)	262 (1.9)	33 (2.6)«	257 (1.9)
Arkansas	42 (2.5)»	261 (1.6)	17 (1.2)	257 (1.7)	40 (2.3)	249 (1.7)
California	56 (2.7)	266 (2.1)	17 (1.2)	259 (2.5)	27 (2.1)	250 (2.7)
Colorado	70 (2.5)»	275 (1.2)>	13 (1.0)«	264 (2.0)	17 (1.9)<	264 (2.0)
Connecticut	53 (2.0)»	280 (1.3)>	21 (1.3)«	269 (1.7)	25 (1.7)	263 (2.2)
Delaware	53 (1.0)»	265 (1.3)	21 (0.9)	263 (1.9)	26 (0.9)«	257 (1.4)
Dist. Columbia	56 (1.3)	234 (1.2)»	19 (1.0)	238 (2.2)	25 (1.2)	232 (2.1)
Florida	46 (2.5)»	268 (1.8)»	16 (1.0)<	259 (2.5)	38 (2.5)«	249 (2.0)
Georgia	47 (2.4)	264 (1.7)	20 (1.4)	257 (1.9)	33 (2.0)	253 (1.8)
Hawaii	46 (1.0)»	259 (1.3)>	20 (0.9)	258 (1.8)	34 (1.0)«	254 (1.5)
Idaho	69 (2.1)»	277 (0.9)>	13 (1.2)<	271 (1.7)	19 (1.2)«	266 (1.7)
Indiana	41 (2.6)>	273 (1.7)>	21 (1.4)<	271 (1.9)	38 (2.5)	265 (1.8)
Iowa	67 (3.3)>	285 (1.2)>	15 (1.5)«	281 (1.8)	18 (2.7)	277 (2.1)
Kentucky	66 (2.4)»	265 (1.4)>	18 (1.5)	260 (2.1)	16 (1.6)«	249 (2.0)<
Louisiana	39 (2.6)>	252 (2.0)	21 (1.5)	250 (2.7)	40 (2.8)«	246 (1.8)
Maine	73 (2.7)	279 (1.2)	15 (1.6)	277 (1.8)	12 (1.6)	274 (2.5)
Maryland	49 (2.4)»	271 (1.6)	23 (1.4)	263 (2.2)	28 (2.0)«	255 (2.3)
Massachusetts	35 (2.7)	278 (1.8)	17 (1.3)	275 (2.0)	47 (2.8)	267 (1.5)
Michigan	68 (2.9)»	272 (1.9)	14 (1.5)	260 (2.4)	18 (2.0)«	254 (2.7)
Minnesota	75 (2.5)»	283 (1.1)>	12 (1.1)«	278 (2.3)	13 (1.9)«	277 (2.8)
Mississippi	31 (2.3)	248 (2.2)	16 (1.3)	250 (2.1)	53 (2.5)	243 (1.5)
Missouri	75 (2.8)	272 (1.3)	10 (1.2)	272 (2.3)	14 (2.3)	261 (2.9)
Nebraska	69 (3.2)»	278 (1.4)	13 (1.3)<	279 (2.5)	17 (2.4)«	273 (2.1)
New Hampshire	61 (2.4)»	279 (1.2)	20 (1.6)<	278 (1.8)	19 (1.7)«	274 (1.9)
New Jersey	46 (2.9)»	275 (2.1)	22 (1.7)	276 (1.9)	32 (2.6)«	262 (3.6)
New Mexico	46 (2.2)»	262 (1.0)	20 (1.2)	263 (1.9)	34 (2.2)«	252 (1.6)
New York	29 (2.3)>	268 (2.1)	22 (1.3)	271 (3.1)	49 (2.6)«	262 (3.1)
North Carolina	44 (2.3)»	261 (1.4)»	22 (1.3)	259 (1.8)	33 (2.0)<	252 (1.8)
North Dakota	72 (2.8)»	283 (1.3)	9 (1.1)«	282 (2.4)	19 (2.2)<	281 (1.9)
Ohio	52 (3.1)>	271 (1.8)	19 (1.6)	266 (2.1)	29 (2.4)<	263 (2.9)
Oklahoma	36 (2.9)	270 (1.7)	16 (1.3)	264 (2.5)	48 (2.6)	267 (1.6)
Pennsylvania	42 (3.0)»	274 (2.1)	20 (1.3)	270 (2.4)	38 (2.7)«	268 (1.9)
Rhode Island	47 (0.8)»	268 (1.2)»	19 (0.9)	265 (1.7)	33 (0.8)«	262 (1.2)
South Carolina	46 (2.1)	265 (1.3)	20 (1.2)	261 (1.9)	34 (2.2)	253 (1.6)
Tennessee	42 (3.0)	263 (1.9)	18 (1.0)	262 (1.9)	40 (2.9)	252 (1.7)
Texas	62 (2.5)»	268 (1.7)	16 (1.3)«	262 (2.1)	21 (1.9)«	254 (2.3)
Utah	67 (2.1)	275 (0.9)	12 (1.1)	272 (1.8)	21 (1.6)	271 (1.8)
Virginia	43 (2.2)	271 (1.8)	20 (1.1)	267 (1.7)	37 (2.2)	263 (1.9)
West Virginia	43 (2.8)»	262 (1.4)	21 (1.6)	258 (2.0)	37 (2.7)«	255 (1.4)
Wisconsin	71 (4.1)	280 (1.5)	14 (1.4)<	272 (3.1)	14 (3.4)	273 (5.6)!
Wyoming	71 (2.5)»	276 (1.1)	11 (1.3)«	272 (1.9)	19 (2.0)<	271 (1.6)
TERRITORIES						
Guam	30 (1.2)»	238 (2.2)	15 (0.9)	242 (2.5)	55 (1.1)«	231 (1.3)
Virgin Islands	40 (1.1)»	226 (1.4)»	15 (0.8)	225 (2.3)	46 (1.0)«	217 (1.6)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ! Interpret with caution – the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 10.15 | Students' Reports on the Frequency of Use of Calculators in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	40 (3.1)	266 (2.3)	21 (1.4)	264 (2.0)	39 (3.1)	257 (1.4)
Northeast	23 (6.8)	271(12.2)!	18 (1.7)	274 (3.9)	58 (7.3)	268 (3.0)
Southeast	30 (4.9)	252 (4.4)	23 (3.3)	262 (5.2)	47 (6.7)	252 (2.7)
Central	53 (6.1)	271 (2.8)	20 (3.3)	262 (2.9)	27 (4.7)	256 (4.3)
West	48 (6.2)	267 (3.4)	22 (2.4)	263 (3.1)	30 (5.9)	251 (2.8)
STATES						
Alabama	28 (2.5)	253 (2.3)	18 (1.3)	258 (2.1)	53 (3.2)	252 (1.5)
Arizona	34 (1.9)	260 (2.4)	21 (1.3)	263 (2.0)	45 (2.0)	258 (1.2)
Arkansas	30 (2.4)	257 (1.9)	21 (1.6)	261 (1.7)	49 (3.2)	254 (1.3)
California	49 (2.7)	262 (1.9)	22 (1.4)	256 (2.2)	30 (2.3)	248 (1.9)
Colorado	54 (2.3)	270 (1.2)	20 (1.5)	266 (1.7)	26 (2.0)	263 (1.8)
Connecticut	43 (2.2)	273 (1.7)	30 (1.4)	272 (1.5)	27 (1.9)	263 (1.8)
Delaware	41 (0.8)	262 (1.5)	20 (0.8)	261 (1.7)	39 (0.8)	260 (1.3)
Dist. Columbia	55 (0.9)	228 (1.0)	18 (0.9)	243 (2.7)	27 (0.8)	231 (1.6)
Florida	28 (2.3)	258 (2.0)	21 (1.1)	258 (2.1)	51 (2.5)	253 (1.4)
Georgia	44 (2.4)	263 (1.8)	22 (1.3)	261 (2.0)	34 (2.5)	253 (1.9)
Hawaii	26 (0.9)	251 (1.7)	19 (0.7)	256 (1.6)	55 (0.8)	250 (1.1)
Idaho	44 (1.1)	273 (1.1)	17 (0.8)	270 (1.5)	38 (0.9)	270 (1.2)
Indiana	29 (2.3)	266 (1.8)	27 (1.6)	270 (1.8)	44 (2.1)	267 (1.4)
Iowa	53 (2.8)	279 (1.5)	24 (1.8)	277 (1.7)	22 (2.2)	278 (1.5)
Kentucky	30 (2.2)	257 (2.1)	20 (1.6)	258 (2.0)	50 (2.5)	257 (1.5)
Louisiana	27 (2.6)	249 (1.9)	17 (1.4)	252 (2.1)	56 (2.9)	244 (1.6)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	34 (2.2)	266 (1.9)	22 (1.5)	265 (2.1)	44 (2.3)	255 (2.2)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	44 (3.0)	269 (1.5)	19 (1.6)	265 (1.9)	38 (2.9)	259 (2.0)
Minnesota	51 (2.9)	278 (1.4)	23 (1.9)	275 (1.4)	26 (2.2)	271 (1.5)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	52 (2.3)	279 (1.3)	19 (1.1)	278 (1.5)	29 (1.9)	269 (1.9)
New Hampshire	40 (1.0)	275 (1.2)	26 (1.0)	276 (1.7)	34 (1.0)	270 (1.8)
New Jersey	23 (1.6)	272 (2.4)	22 (1.4)	277 (1.7)	55 (2.4)	266 (1.5)
New Mexico	31 (1.2)	259 (1.4)	22 (1.1)	259 (1.4)	47 (1.1)	255 (1.2)
New York	19 (1.9)	261 (3.2)	19 (1.5)	267 (2.5)	62 (2.3)	260 (1.6)
North Carolina	30 (2.0)	251 (1.7)	27 (1.4)	255 (1.9)	44 (2.7)	248 (1.6)
North Dakota	56 (2.2)	281 (1.4)	16 (1.2)	284 (2.3)	27 (2.1)	279 (1.8)
Ohio	38 (2.8)	266 (2.1)	23 (1.7)	262 (1.9)	39 (2.3)	263 (1.6)
Oklahoma	34 (2.6)	265 (2.2)	17 (1.2)	263 (2.1)	50 (2.6)	263 (1.6)
Pennsylvania	26 (2.4)	267 (2.2)	22 (1.3)	273 (2.0)	52 (2.6)	264 (2.2)
Rhode Island	27 (0.7)	260 (1.2)	17 (0.7)	267 (1.7)	55 (0.8)	258 (0.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	35 (3.0)	267 (1.8)	25 (1.6)	262 (1.5)	40 (2.9)	249 (2.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	36 (2.4)	272 (2.4)	23 (1.3)	266 (2.0)	41 (2.4)	257 (2.1)
West Virginia	26 (2.6)	259 (2.4)	21 (1.4)	260 (1.7)	53 (2.8)	254 (1.1)
Wisconsin	59 (3.3)	277 (1.5)	20 (1.6)	275 (1.9)	21 (2.4)	267 (2.2)
Wyoming	57 (1.1)	273 (0.9)	18 (0.7)	270 (1.7)	26 (1.0)	271 (1.2)
TERRITORIES						
Guam	19 (1.0)	234 (2.5)	16 (1.1)	241 (1.8)	65 (1.2)	230 (1.1)
Virgin Islands	23 (1.1)	215 (1.9)	16 (1.0)	226 (2.1)	61 (1.5)	219 (1.0)

TABLE 10.16 Students' Understanding of When to Use a Calculator, Grades 4, 8, and 12

		High Calculator-Use Group†		Other Group†	
	Assessment Years	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	**1992**	23 (0.8)	218 (1.5)	77 (0.8)	218 (0.9)
Grade 8	**1992**	26 (0.9)	282 (1.5)	74 (0.9)	262 (1.0)
Grade 12	**1992**	31 (1.2)	315 (1.2)	69 (1.2)	291 (0.9)

† Students in the "High" group used the calculator for at least 65 percent of the calculator-suitable items and used the calculator for no more than one of the calculator-unsuitable items. Students in the "Other" group used the calculator for less than 65 percent of the calculator-suitable items or used it for more than one of the calculator-unsuitable items.

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.17 | Students' Understanding of When to Use a Calculator

PUBLIC SCHOOLS	Grade 4 - 1992			
	High Calculator-Use Group		Other Group	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (0.9)	217 (1.7)	77 (0.9)	217 (1.0)
Northeast	24 (2.8)	220 (4.2)	76 (2.8)	223 (2.1)
Southeast	27 (1.5)	207 (3.4)	73 (1.5)	209 (2.4)
Central	20 (1.7)	225 (4.4)	80 (1.7)	221 (2.3)
West	23 (1.1)	218 (2.2)	77 (1.1)	216 (1.9)
STATES				
Alabama	26 (1.2)	207 (2.2)	74 (1.2)	207 (2.0)
Arizona	22 (1.1)	214 (2.0)	78 (1.1)	212 (1.2)
Arkansas	31 (1.4)	212 (1.9)	69 (1.4)	206 (1.1)
California	19 (1.1)	206 (2.7)	81 (1.1)	208 (1.6)
Colorado	20 (1.1)	221 (1.8)	80 (1.1)	220 (1.1)
Connecticut	21 (1.0)	224 (2.1)	79 (1.0)	227 (1.3)
Delaware	24 (1.5)	217 (2.0)	76 (1.5)	216 (0.9)
Dist. Columbia	26 (1.2)	193 (1.9)	74 (1.2)	190 (1.0)
Florida	24 (1.2)	216 (2.2)	77 (1.2)	213 (1.5)
Georgia	27 (1.4)	214 (2.0)	73 (1.4)	213 (1.8)
Hawaii	23 (1.1)	214 (2.0)	77 (1.1)	213 (1.4)
Idaho	24 (1.2)	222 (1.8)	76 (1.2)	220 (1.1)
Indiana	26 (1.1)	222 (1.8)	74 (1.1)	219 (1.1)
Iowa	27 (1.1)	229 (1.5)	73 (1.1)	229 (1.3)
Kentucky	26 (1.2)	219 (1.5)	74 (1.2)	212 (1.2)
Louisiana	28 (1.3)	202 (2.4)	72 (1.3)	203 (1.7)
Maine	24 (1.4)	230 (1.8)	76 (1.4)	231 (1.4)
Maryland	23 (1.0)	220 (1.9)	77 (1.0)	215 (1.6)
Massachusetts	22 (1.1)	224 (2.2)	78 (1.1)	225 (1.5)
Michigan	19 (1.1)	221 (2.6)	81 (1.1)	218 (1.7)
Minnesota	22 (1.1)	229 (1.9)	78 (1.1)	227 (1.1)
Mississippi	31 (1.3)	202 (1.7)	69 (1.3)	198 (1.5)
Missouri	26 (1.4)	223 (1.9)	74 (1.4)	220 (1.4)
Nebraska	26 (1.5)	226 (1.5)	74 (1.5)	223 (1.5)
New Hampshire	22 (1.4)	227 (2.1)	78 (1.4)	227 (1.4)
New Jersey	23 (1.4)	224 (2.1)	77 (1.4)	227 (1.8)
New Mexico	25 (1.6)	214 (1.8)	75 (1.6)	212 (2.1)
New York	21 (1.3)	216 (2.2)	79 (1.3)	217 (1.5)
North Carolina	24 (1.1)	212 (1.9)	76 (1.1)	211 (1.5)
North Dakota	27 (1.4)	229 (1.5)	73 (1.4)	228 (1.0)
Ohio	23 (1.1)	219 (1.8)	77 (1.1)	217 (1.4)
Oklahoma	29 (1.1)	218 (1.5)	71 (1.1)	219 (1.2)
Pennsylvania	25 (1.4)	223 (1.8)	75 (1.4)	223 (1.6)
Rhode Island	22 (1.1)	215 (2.6)	78 (1.1)	213 (1.7)
South Carolina	29 (1.2)	213 (1.8)	71 (1.2)	210 (1.2)
Tennessee	27 (1.2)	211 (2.1)	73 (1.2)	209 (1.6)
Texas	27 (1.3)	216 (1.6)	73 (1.3)	217 (1.6)
Utah	24 (1.2)	225 (1.5)	76 (1.2)	222 (1.2)
Virginia	26 (1.1)	220 (1.7)	74 (1.1)	219 (1.4)
West Virginia	25 (1.0)	213 (2.0)	75 (1.0)	213 (1.2)
Wisconsin	22 (1.2)	228 (1.8)	78 (1.2)	228 (1.3)
Wyoming	29 (1.2)	225 (1.5)	71 (1.2)	224 (1.1)
TERRITORY				
Guam	27 (1.4)	197 (1.9)	73 (1.4)	189 (1.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Students in the high group used the calculator for the calculator-active items and did not use it for the calculator-inactive items at least 85 percent of the time and indicated that they used the calculator for at least half of the calculator-active items they were presented.

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TABLE 10.17 | Students' Understanding of When to Use a Calculator (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	High Calculator-Use Group		Other Group	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	26 (0.9)	280 (1.6)	74 (0.9)	260 (1.1)
Northeast	22 (1.4)	283 (2.9)	78 (1.4)	261 (2.9)
Southeast	25 (1.1)	273 (2.1)	75 (1.1)	251 (1.6)
Central	25 (2.6)	285 (3.5)	75 (2.6)	269 (2.4)
West	31 (1.9)	281 (3.1)	69 (1.9)	261 (2.7)
STATES				
Alabama	27 (1.3)	262 (2.5)	73 (1.3)	247 (1.7)
Arizona	26 (1.3)	275 (2.3)	74 (1.3)	260 (1.6)
Arkansas	25 (1.2)	269 (2.1)	75 (1.2)	251 (1.5)
California	24 (1.4)	273 (2.9)	76 (1.4)	256 (1.9)
Colorado	30 (1.3)	282 (1.4)	70 (1.3)	266 (1.2)
Connecticut	28 (1.1)	290 (1.7)	72 (1.1)	268 (1.4)
Delaware	24 (1.4)	275 (2.3)	76 (1.4)	258 (1.8)
Dist. Columbia	20 (1.5)	241 (3.8)	80 (1.5)	233 (1.3)
Florida	20 (1.3)	275 (3.2)	80 (1.3)	254 (1.7)
Georgia	26 (1.3)	271 (2.2)	74 (1.3)	255 (1.4)
Hawaii	23 (1.3)	273 (2.4)	77 (1.3)	252 (1.2)
Idaho	34 (1.3)	283 (1.5)	66 (1.3)	269 (0.9)
Indiana	30 (1.4)	280 (1.9)	70 (1.4)	263 (1.4)
Iowa	39 (1.5)	291 (1.5)	61 (1.5)	278 (1.4)
Kentucky	30 (1.3)	277 (1.7)	70 (1.3)	255 (1.3)
Louisiana	23 (1.1)	261 (2.2)	77 (1.1)	246 (1.9)
Maine	33 (1.4)	290 (1.8)	67 (1.4)	272 (1.5)
Maryland	28 (1.4)	282 (2.0)	72 (1.4)	259 (1.5)
Massachusetts	27 (1.6)	284 (1.7)	73 (1.6)	267 (1.4)
Michigan	30 (1.5)	281 (2.1)	70 (1.5)	260 (1.6)
Minnesota	35 (1.8)	292 (1.6)	65 (1.8)	275 (1.2)
Mississippi	27 (1.4)	253 (2.3)	73 (1.4)	242 (1.3)
Missouri	34 (1.6)	281 (1.7)	66 (1.6)	264 (1.3)
Nebraska	33 (1.6)	288 (1.7)	67 (1.6)	273 (1.4)
New Hampshire	30 (1.5)	285 (1.8)	70 (1.5)	275 (1.4)
New Jersey	30 (1.7)	287 (1.5)	70 (1.7)	265 (2.0)
New Mexico	25 (1.1)	271 (2.0)	75 (1.1)	255 (1.1)
New York	26 (1.4)	281 (2.2)	74 (1.4)	262 (2.2)
North Carolina	26 (1.1)	270 (2.0)	74 (1.1)	254 (1.5)
North Dakota	39 (1.5)	287 (1.3)	61 (1.5)	277 (1.6)
Ohio	31 (1.5)	281 (2.5)	69 (1.5)	263 (1.5)
Oklahoma	29 (1.4)	278 (2.0)	71 (1.4)	263 (1.4)
Pennsylvania	27 (1.5)	283 (2.1)	73 (1.5)	265 (1.8)
Rhode Island	24 (1.3)	276 (2.0)	76 (1.3)	262 (1.5)
South Carolina	28 (1.1)	[illegible] (1.6)	72 (1.1)	257 (1.3)
Tennessee	26 (1.3)	269 (2.1)	74 (1.3)	254 (1.8)
Texas	28 (1.0)	279 (2.6)	72 (1.0)	257 (1.3)
Utah	28 (1.0)	284 (1.4)	72 (1.0)	268 (1.1)
Virginia	27 (1.3)	279 (1.8)	73 (1.3)	263 (1.4)
West Virginia	25 (1.2)	270 (2.0)	75 (1.2)	254 (1.1)
Wisconsin	33 (1.4)	288 (1.5)	67 (1.4)	272 (1.9)
Wyoming	34 (1.4)	286 (1.5	66 (1.4)	269 (1.1)
TERRITORIES				
Guam	23 (1.6)	237 (3.0)	77 (1.6)	232 (1.4)
Virgin Islands	15 (1.0)	230 (2.9)	85 (1.0)	220 (1.4)

Students in the high group used the calculator for the calculator-active items and did not use it for the calculator-inactive items at least 85 percent of the time, and indicated that they used the calculator for at least half of the calculator-active items they were presented.

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Availability of Computers

TABLE 10.18 Schools' Reports on the Availability of Computers for Student Use, Grades 4, 8, and 12

	Assessment Years	Yes, Computers Available All the Time in Mathematics Classrooms	Yes, Computers Grouped in A Laboratory Available to Mathematics Classrooms	Yes, Computers Available to Bring to Classroom When Needed
		Percentage of Students	Percentage of Students	Percentage of Students
Grade 4	**1992**	46 (3.1)>	67 (3.3)	49 (3.5)
	1990	24 (3.7)	56 (4.7)	53 (4.2)
Grade 8	**1992**	17 (2.6)	71 (3.1)	52 (3.5)
	1990	14 (4.1)	57 (5.6)	60 (4.5)
Grade 12	**1992**	5 (1.2)	79 (2.8)	47 (4.0)<
	1990	9 (3.4)	79 (4.9)	64 (5.1)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total percent due to rounding error.

TABLE 10.19 | Schools' Reports on the Availability of Computers for Student Use

PUBLIC SCHOOLS	Grade 4 - 1992		
	Yes, Computers Available All the Time in Mathematics Classrooms	Yes, Computers Grouped in Laboratory Available to Mathematics Classrooms	Yes, Computers Available to Bring to Classroom When Needed
	Percentage of Students	Percentage of Students	Percentage of Students
NATION	47 (3.5)	65 (3.7)	51 (3.7)
Northeast	46 (6.1)	56 (9.5)	67 (9.8)
Southeast	42 (6.8)	66 (8.3)	52 (7.4)
Central	46 (7.4)	63 (6.8)	50 (6.8)
West	51 (7.1)	73 (5.8)	38 (5.6)
STATES			
Alabama	36 (5.4)	65 (4.8)	49 (5.2)
Arizona	41 (5.1)	90 (3.2)	40 (4.9)
Arkansas	32 (5.0)	69 (4.1)	29 (4.1)
California	44 (5.8)	82 (4.0)	43 (5.4)
Colorado	49 (5.0)	82 (3.6)	67 (4.3)
Connecticut	55 (5.1)	50 (5.7)	65 (5.5)
Delaware	31 (0.2)	58 (0.3)	56 (0.3)
Dist. Columbia	11 (0.2)	95 (0.1)	36 (0.3)
Florida	58 (4.9)	75 (4.5)	54 (4.5)
Georgia	38 (4.9)	65 (4.7)	66 (5.2)
Hawaii	14 (2.7)	95 (2.1)	42 (5.0)
Idaho	35 (4.3)	69 (3.7)	19 (3.9)
Indiana	62 (4.8)	67 (4.3)	47 (5.3)
Iowa	56 (4.3)	59 (4.7)	63 (3.9)
Kentucky	32 (4.8)	61 (4.7)	43 (4.5)
Louisiana	13 (3.5)	56 (5.1)	30 (4.6)
Maine	55 (6.2)	45 (5.2)	58 (5.6)
Maryland	39 (4.4)	78 (4.4)	63 (4.6)
Massachusetts	52 (4.4)	57 (4.8)	52 (4.4)
Michigan	52 (4.7)	54 (5.4)	58 (5.0)
Minnesota	22 (4.4)	97 (1.9)	65 (5.1)
Mississippi	13 (3.5)	78 (4.2)	20 (4.4)
Missouri	37 (5.0)	57 (4.7)	58 (5.3)
Nebraska	48 (5.2)	58 (5.2)	73 (4.5)
New Hampshire	73 (5.3)	38 (5.9)	52 (6.6)
New Jersey	50 (5.5)	66 (5.7)	52 (6.0)
New Mexico	41 (5.6)	70 (4.8)	44 (6.7)
New York	39 (5.4)	85 (3.8)	58 (5.5)
North Carolina	37 (4.6)	75 (3.9)	45 (5.0)
North Dakota	45 (4.2)	66 (4.1)	66 (4.2)
Ohio	44 (4.0)	46 (4.1)	64 (5.2)
Oklahoma	22 (3.3)	67 (4.7)	47 (4.0)
Pennsylvania	39 (5.2)	67 (4.5)	51 (4.3)
Rhode Island	58 (4.6)	45 (4.9)	65 (5.1)
South Carolina	30 (5.2)	71 (4.8)	44 (5.4)
Tennessee	31 (4.6)	53 (5.5)	54 (5.8)
Texas	12 (3.0)	93 (2.7)	29 (4.7)
Utah	26 (4.1)	89 (3.2)	30 (4.6)
Virginia	46 (5.0)	71 (4.6)	65 (5.5)
West Virginia	51 (4.4)	54 (5.0)	37 (4.6)
Wisconsin	51 (5.2)	72 (4.3)	59 (5.7)
Wyoming	61 (4.4)	89 (2.7)	56 (4.4)
TERRITORY			
Guam	9 (0.1)	93 (0.1)	6 (0.1)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 10.19 | Schools' Reports on the Availability of Computers for Student Use (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			Grade 8 - 1990		
	Yes, Computers Available All the Time in Mathematics Classrooms	Yes, Computers Grouped in Laboratory Available to Mathematics Classrooms	Yes, Computers Available to Bring to Classroom When Needed	Yes, Computers Available All the Time in Mathematics Classrooms	Yes, Computers Grouped in Laboratory Available to Mathematics Classrooms	Yes, Computers Available to Bring to Classroom When Needed
	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students
NATION	16 (2.9)	71 (3.4)	54 (3.9)	14 (4.5)	57 (6.0)	62 (5.0)
Northeast	6 (4.7)	78 (7.5)	41(10.6)	6 (5.6)	74 (6.1)	72(11.9)
Southeast	9 (4.4)	59 (7.9)	48 (7.2)	9 (6.7)	71(10.2)	55 (8.6)
Central	24 (6.7)	79 (6.6)	57 (9.7)	18(12.1)	44(17.5)	65(14.8)
West	23 (6.5)	69 (4.6)	65 (4.7)	21 (9.8)	41(10.9)	57 (8.3)
STATES						
Alabama	25 (4.7) >	61 (5.5)	47 (5.8)	11 (3.0)	69 (5.1)	47 (5.9)
Arizona	23 (3.9)	67 (5.2)	33 (4.9)	16 (2.5)	69 (3.2)	34 (3.9)
Arkansas	19 (3.9)	55 (5.4)	21 (4.2) <	14 (3.4)	54 (4.7)	34 (5.0)
California	17 (3.6)	64 (4.5)	33 (5.0) <	14 (4.0)	69 (4.9)	55 (5.8)
Colorado	19 (3.6)	75 (4.2)	60 (5.7)	14 (3.2)	80 (3.5)	66 (3.8)
Connecticut	13 (3.3)	81 (4.1)	59 (5.2)	10 (2.7)	79 (4.0)	54 (3.8)
Delaware	8 (0.1)	55 (0.2) «	37 (0.2) »	0 (0.0)	60 (0.2)	30 (0.1)
Dist. Columbia	34 (0.5) »	83 (0.6) «	35 (0.7) »	7 (0.1)	91 (0.1)	28 (0.4)
Florida	35 (5.2)	65 (5.3)	46 (5.0) <	22 (4.6)	58 (5.2)	62 (4.9)
Georgia	13 (2.9)	56 (5.9)	60 (5.4)	22 (3.9)	50 (5.4)	62 (4.7)
Hawaii	2 (0.1) «	92 (0.1) <	34 (0.3) »	10 (0.3)	93 (0.1)	27 (0.3)
Idaho	7 (2.7)	56 (4.2)	32 (4.4)	8 (1.1)	62 (1.3)	27 (1.8)
Indiana	15 (3.8)	71 (4.1)	50 (5.3)	20 (4.1)	62 (5.0)	58 (5.2)
Iowa	18 (3.9)	75 (4.6)	57 (5.7)	19 (4.3)	80 (4.0)	68 (4.6)
Kentucky	10 (3.4)	64 (4.9)	29 (4.7)	11 (3.1)	51 (5.1)	37 (4.8)
Louisiana	6 (2.5)	52 (4.7)	26 (4.0)	8 (3.0)	39 (5.2)	34 (5.1)
Maine	17 (3.5)	60 (4.9)	55 (5.8)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	10 (3.3)	90 (3.4)	54 (5.0)	16 (3.3)	89 (3.1)	59 (4.8)
Massachusetts	11 (3.2)	89 (3.5)	49 (6.1)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	14 (3.6)	56 (5.5)	50 (5.5)	15 (4.0)	63 (5.4)	56 (4.8)
Minnesota	18 (4.3)	95 (2.3)	54 (5.9)	16 (3.6)	89 (3.6)	58 (5.1)
Mississippi	4 (2.1)	54 (5.0)	19 (4.7)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	20 (3.8)	70 (4.4)	46 (4.6)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	21 (4.0)	77 (3.9)	55 (5.1) «	22 (2.8)	81 (2.5)	76 (2.7)
New Hampshire	21 (3.6) «	62 (3.0)	54 (4.4) «	36 (1.1)	66 (1.1)	70 (0.7)
New Jersey	26 (5.5) >	64 (5.3)	51 (5.2)	10 (3.1)	71 (4.5)	61 (4.7)
New Mexico	13 (2.4)	72 (4.0)	41 (4.0) «	15 (1.0)	77 (1.2)	63 (1.1)
New York	9 (2.8)	88 (4.1)	48 (5.5)	7 (3.0)	93 (2.6)	45 (5.5)
North Carolina	15 (3.5)	71 (4.9)	46 (5.9)	15 (3.8)	63 (5.3)	52 (4.7)
North Dakota	17 (3.9)	75 (3.3)	47 (4.4) «	19 (3.3)	68 (3.1)	65 (3.3)
Ohio	18 (4.6)	56 (5.9)	56 (5.2)	18 (4.0)	67 (5.3)	62 (4.7)
Oklahoma	14 (3.3)	56 (5.6)	37 (4.0)	18 (3.8)	54 (5.0)	37 (5.2)
Pennsylvania	11 (3.0)	78 (4.6)	46 (5.3)	13 (3.8)	81 (4.8)	56 (5.5)
Rhode Island	6 (0.1) «	84 (0.2) »	54 (0.3) >	9 (0.2)	78 (0.4)	51 (1.0)
South Carolina	15 (3.4)	62 (4.3)	45 (5.4)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	13 (3.8)	59 (5.5)	35 (5.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	20 (4.3)	50 (5.8)	29 (4.7)	12 (3.4)	50 (5.4)	35 (4.9)
Utah	6 (2.4)	59 (4.2)	35 (4.3)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	27 (4.0) >	89 (3.9)	70 (4.8)	16 (3.8)	83 (3.5)	70 (4.6)
West Virginia	16 (3.4)	69 (4.4)	29 (3.9)	20 (3.6)	64 (3.8)	31 (4.5)
Wisconsin	16 (4.1)	80 (4.1)	63 (5.5)	26 (4.8)	78 (4.6)	57 (5.2)
Wyoming	28 (3.8)	84 (2.9)	46 (4.0)	24 (1.0)	85 (1.0)	54 (0.8)
TERRITORIES						
Guam	0 (0.0)	39 (0.2)	27 (0.3) »	0 (0.0)	39 (0.2)	15 (0.1)
Virgin Islands	19 (0.1)	80 (0.1) »	21 (0.1)	0 (0.0)	79 (0.2)	0 (0.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 10.20 Teachers' Reports on the Availability of Computers for Student Use, Grades 4 and 8

	Assessment Years	Available in Classroom		Difficult to Access		Not Available	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	44 (2.8)>	219 (1.7)	38 (2.5)	220 (1.4)>	18 (2.4)	213 (2.5)
	1990	31 (3.7)	221 (2.1)	46 (3.7)	214 (1.8)	23 (2.7)	207 (2.9)
High ability	1992	44 (9.4)	233 (3.3)	42 (8.4)	241 (5.6)	14 (6.0)	243 (3.2)
	1990	39 (9.6)	244 (6.1)	37(11.0)	224(11.1)	24 (8.6)	234 (9.0)
Average ability	1992	46 (3.8)>	224 (2.1)	35 (3.3)	221 (2.0)	19 (3.3)	216 (2.3)
	1990	27 (4.4)	221 (3.9)	49 (5.3)	217 (2.6)	24 (4.8)	206 (4.2)
Low ability	1992	40 (5.8)	198 (4.1)	40 (4.7)	197 (2.5)	21 (4.0)	190 (4.8)
	1990	20 (7.9)	219(10.8)	56 (8.3)	203 (5.8)	24 (6.8)	188 (4.4)
Mixed ability	1992	42 (4.5)	215 (2.2)	40 (4.3)	221 (1.8)>	18 (3.5)	212 (3.6)
	1990	35 (5.2)	216 (3.1)	43 (5.2)	214 (2.0)	22 (4.1)	206 (3.6)
Grade 8							
Nation	1992	20 (2.0)	265 (2.1)	57 (2.7)	272 (1.7)>	24 (1.9)	264 (1.7)
	1990	22 (3.7)	263 (3.2)	50 (4.2)	262 (2.2)	28 (4.0)	266 (2.6)
High ability	1992	17 (2.6)	300 (3.1)	63 (4.2)>	301 (2.2)>	20 (2.8)	296 (3.5)
	1990	19 (5.6)	290 (3.9)	44 (5.7)	284 (4.4)	36 (6.3)	291 (3.9)
Average ability	1992	21 (2.7)	267 (2.2)	52 (4.0)	267 (2.1)	26 (3.3)	261 (2.4)
	1990	16 (4.2)	257 (4.0)	58 (6.3)	260 (2.8)	27 (5.3)	262 (3.5)
Low ability	1992	22 (3.9)	235 (5.0)	54 (5.6)	248 (2.4)	24 (3.9)	246 (3.1)
	1990	16 (5.1)	237 (6.8)	52 (6.5)	244 (5.2)	32 (5.9)	246 (4.3)
Mixed ability	1992	18 (3.1)	255 (3.5)	59 (4.8)	265 (2.0)	23 (4.2)	255 (3.3)
	1990	36 (9.2)	259 (5.3)	42 (7.8)	256 (4.8)	22 (6.1)	253 (4.9)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.21 | Teachers' Reports on the Availability of Computers for Student Use

PUBLIC SCHOOLS	Grade 4 - 1992					
	Available in Classroom		Difficult to Access		Not Available	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	45 (3.0)	218 (1.9)	38 (2.8)	219 (1.5)	17 (2.7)	210 (3.0)
Northeast	48 (7.3)	224 (3.9)!	32 (4.6)	217 (4.3)	19 (6.1)	216 (7.8)!
Southeast	42 (3.5)	207 (3.5)	33 (6.6)	211 (2.5)	25 (6.6)	203 (4.7)!
Central	49 (7.0)	222 (2.8)	41 (5.8)	226 (2.5)	11 (3.4)	222 (5.3)!
West	42 (6.0)	219 (3.8)	44 (4.7)	219 (3.6)	14 (4.1)	208 (4.0)!
STATES						
Alabama	38 (3.8)	210 (2.7)	45 (3.8)	207 (2.3)	17 (3.2)	201 (2.5)
Arizona	30 (2.9)	212 (1.9)	53 (3.5)	216 (1.6)	17 (2.6)	213 (2.3)
Arkansas	43 (4.0)	210 (1.6)	33 (4.1)	209 (2.6)	25 (4.3)	208 (2.5)
California	50 (4.0)	207 (2.1)	36 (3.5)	212 (2.4)	14 (2.2)	197 (3.5)
Colorado	47 (3.8)	221 (2.0)	43 (3.5)	220 (1.4)	11 (2.1)	216 (4.2)!
Connecticut	57 (3.9)	230 (1.6)	35 (3.6)	228 (2.1)	8 (2.0)	208 (7.7)!
Delaware	30 (0.8)	216 (1.7)	49 (0.9)	219 (1.2)	20 (1.0)	215 (2.4)
Dist. Columbia	27 (1.0)	196 (1.6)	51 (0.9)	191 (1.1)	22 (1.0)	184 (1.5)
Florida	63 (3.7)	216 (1.4)	30 (3.3)	207 (2.4)	7 (1.9)	205 (3.2)!
Georgia	47 (4.2)	212 (2.1)	45 (4.5)	215 (2.6)	8 (1.9)	215 (3.7)!
Hawaii	30 (2.9)	215 (2.0)	47 (3.1)	212 (2.3)	23 (2.5)	214 (2.4)
Idaho	35 (3.4)	219 (1.5)	47 (3.5)	220 (1.4)	19 (2.8)	222 (2.0)
Indiana	47 (3.9)	221 (1.7)	43 (3.8)	218 (1.7)	10 (2.3)	219 (3.0)!
Iowa	54 (4.3)	229 (1.4)	37 (4.3)	231 (1.7)	9 (2.0)	223 (2.8)!
Kentucky	39 (4.7)	215 (1.8)	40 (4.9)	212 (1.7)	21 (3.3)	214 (2.2)
Louisiana	25 (3.8)	207 (3.0)	26 (3.7)	207 (3.5)	49 (4.5)	198 (2.1)
Maine	53 (4.5)	230 (1.4)	37 (4.3)	231 (1.8)	10 (2.6)	230 (2.8)!
Maryland	49 (3.5)	220 (2.5)	39 (3.8)	219 (1.8)	12 (2.4)	209 (4.2)!
Massachusetts	49 (3.9)	229 (2.0)	39 (3.8)	225 (2.2)	12 (2.4)	224 (3.3)!
Michigan	51 (4.5)	222 (2.3)	42 (4.3)	215 (2.3)	7 (1.8)	216 (9.8)!
Minnesota	33 (3.9)	228 (2.4)	60 (3.7)	227 (1.3)	7 (1.9)	222 (5.9)!
Mississippi	24 (3.7)	199 (2.6)	43 (3.4)	199 (1.9)	33 (3.4)	202 (2.4)
Missouri	44 (3.7)	223 (2.0)	39 (3.6)	224 (2.0)	17 (3.5)	213 (3.6)!
Nebraska	47 (3.7)	227 (2.0)	47 (3.9)	223 (1.7)	6 (1.9)	224 (4.7)!
New Hampshire	57 (3.9)	228 (1.2)	37 (3.6)	233 (2.0)	7 (1.6)	219 (4.3)!
New Jersey	45 (4.1)	233 (2.0)	38 (3.7)	227 (2.1)	17 (2.9)	211 (5.0)
New Mexico	34 (5.0)	215 (2.1)	51 (4.6)	213 (1.8)	16 (3.1)	203 (3.2)
New York	32 (3.5)	218 (2.7)	42 (3.8)	218 (1.7)	26 (3.0)	214 (2.8)
North Carolina	39 (3.3)	215 (1.6)	50 (3.3)	210 (1.3)	11 (2.1)	213 (2.9)
North Dakota	40 (5.1)	225 (1.7)	46 (4.6)	230 (1.3)	14 (3.3)	228 (1.8)!
Ohio	43 (3.7)	218 (2.1)	40 (3.4)	217 (2.0)	17 (3.0)	214 (3.1)
Oklahoma	28 (3.6)	219 (1.7)	52 (3.3)	222 (1.5)	20 (3.0)	215 (2.0)
Pennsylvania	34 (3.5)	224 (2.3)	47 (3.6)	225 (2.0)	19 (3.3)	215 (4.3)
Rhode Island	43 (4.7)	215 (2.4)	37 (4.0)	219 (2.6)	20 (3.4)	203 (3.0)
South Carolina	38 (3.8)	212 (1.9)	47 (3.4)	212 (1.6)	14 (2.3)	209 (3.4)
Tennessee	42 (3.9)	207 (2.1)	36 (3.7)	213 (2.5)	22 (3.1)	210 (2.0)
Texas	25 (3.1)	220 (2.6)	56 (4.0)	217 (2.0)	19 (3.1)	214 (3.1)
Utah	31 (3.4)	223 (1.8)	51 (3.2)	224 (1.1)	18 (2.3)	221 (2.1)
Virginia	51 (4.2)	222 (2.1)	40 (3.8)	217 (2.4)	10 (1.8)	216 (4.5)
West Virginia	50 (3.9)	214 (1.6)	34 (3.3)	215 (1.6)	16 (3.3)	209 (2.9)!
Wisconsin	41 (4.3)	227 (2.2)	51 (4.4)	228 (1.3)	8 (2.2)	234 (3.3)!
Wyoming	50 (3.8)	226 (1.2)	45 (3.7)	224 (1.4)	5 (1.5)	221 (3.7)!
TERRITORY						
Guam	17 (1.1)	185 (2.5)	57 (1.1)	194 (1.0)	26 (0.7)	190 (1.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 10.21 | Teachers' Reports on the Availability of Computers for Student Use (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Available in Classroom		Difficult to Access		Not Available	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	19 (2.2)	264 (2.1)	56 (3.0)	271 (1.8)	24 (2.2)	263 (1.9)
Northeast	19 (5.2)	265 (4.7)!	64 (6.1)	270 (5.0)	18 (4.2)	262 (5.0)!
Southeast	23 (5.2)	264 (3.2)!	48 (5.5)	265 (2.0)	29 (4.6)	254 (2.4)
Central	17 (5.0)	268 (4.7)!	65 (8.3)	279 (4.4)!	18 (4.1)	269 (4.4)!
West	19 (2.5)	259 (4.6)	53 (3.9)	270 (2.5)	29 (4.0)	269 (3.2)
STATES						
Alabama	15 (3.2)	249 (4.6)!	60 (4.1)	253 (2.6)	26 (3.8)	252 (2.8)
Arizona	17 (2.8)	265 (3.3)	48 (4.1)	264 (2.0)	35 (3.5)	264 (1.8)
Arkansas	23 (3.6)	254 (3.3)	33 (3.8)	256 (2.3)	44 (4.3)	257 (1.9)
California	24 (3.4)	259 (3.3)	48 (4.0)	263 (2.1)	28 (3.7)	259 (3.4)
Colorado	15 (2.3)	272 (3.0)	69 (2.9)	273 (1.3) >	17 (2.7)	263 (2.0)
Connecticut	22 (3.5)	270 (4.3)	58 (3.4)	278 (1.6)	19 (2.8)	265 (4.4)
Delaware	18 (0.7) »	251 (2.8)	39 (1.0) «	266 (1.7)	43 (0.7) »	263 (1.3) >
Dist. Columbia	20 (1.0)	242 (2.2) »	67 (1.1) <	232 (1.3)	13 (0.6) >	235 (2.9)
Florida	27 (3.2)	254 (2.6)	48 (3.7)	265 (1.9) >	25 (2.9) <	254 (3.0)
Georgia	27 (3.5)	258 (2.6)	50 (3.9)	258 (1.8)	23 (3.7)	258 (2.6)
Hawaii	11 (0.7)	252 (3.4)	68 (0.9) >	258 (1.0) »	21 (0.6) «	261 (1.8) »
Idaho	15 (2.1)	274 (2.1) »	39 (3.6)	274 (1.5)	46 (3.7)	276 (1.0)
Indiana	15 (2.9)	273 (2.4)	66 (4.7)	270 (1.7)	19 (4.5)	268 (2.4)!
Iowa	20 (3.8)	281 (2.6)	58 (4.6)	285 (1.4) »	21 (3.7) >	279 (2.1)
Kentucky	13 (2.8)	252 (3.5)!	57 (3.8) >	265 (1.6) >	30 (3.5)	261 (1.7)
Louisiana	12 (2.9)	252 (6.5)!	37 (4.3)	250 (3.0)	52 (4.6)	249 (2.3)
Maine	19 (4.0)	274 (2.3)!	61 (4.5)	280 (1.4)	20 (3.6)	276 (1.9)!
Maryland	19 (3.0)	271 (3.9)	73 (3.6)	266 (1.7)	8 (2.4) <	252 (8.0)!
Massachusetts	19 (3.4)	273 (3.7)	60 (3.4)	275 (1.6)	20 (3.1)	263 (2.5)
Michigan	13 (2.8)	277 (4.4)!	60 (3.7) >	268 (2.4)	28 (3.7)	259 (3.6)
Minnesota	19 (3.2)	280 (2.5)	70 (4.0)	283 (1.2) »	11 (2.5)	274 (3.4)!
Mississippi	10 (2.3)	236 (3.7)!	37 (4.1)	246 (2.6)	53 (4.5)	247 (1.9)
Missouri	19 (2.9)	265 (2.6)	56 (4.2)	275 (1.3)	26 (3.5)	266 (2.1)
Nebraska	22 (3.3)	276 (3.2)	62 (4.2)	278 (1.7)	16 (3.1)	276 (2.1)!
New Hampshire	19 (3.2)	279 (3.1)	60 (3.8)	278 (1.3) >	21 (2.7)	274 (1.8)
New Jersey	27 (3.7)	271 (4.3)	50 (4.0)	273 (2.4)	24 (2.8)	269 (3.4)
New Mexico	13 (2.0)	256 (2.1)	62 (4.0)	260 (1.1)	25 (3.5)	259 (2.0)
New York	21 (3.6) >	273 (4.4)	58 (4.2)	269 (2.9)	21 (3.1)	249 (5.1)
North Carolina	13 (2.4)	251 (2.9)	68 (3.3)	258 (1.4) »	19 (3.3)	258 (2.7)
North Dakota	17 (3.0)	281 (2.5)	57 (3.7)	284 (1.4)	26 (3.1)	282 (2.0)
Ohio	18 (3.8)	264 (5.7)!	60 (4.9)	272 (2.3)	22 (4.1)	266 (3.7)!
Oklahoma	20 (3.3)	265 (2.6)	45 (4.0)	269 (1.6)	35 (3.3)	267 (2.6)
Pennsylvania	14 (2.6)	268 (2.5)	57 (4.1)	273 (2.1)	29 (3.6)	269 (3.2)
Rhode Island	15 (0.5)	269 (2.0) >	62 (0.9) <	264 (1.1)	24 (0.9) »	264 (1.3) »
South Carolina	24 (3.1)	250 (3.1)	48 (3.6)	265 (1.4)	28 (3.3)	263 (2.8)
Tennessee	18 (2.9)	256 (3.3)	41 (3.9)	257 (2.0)	41 (4.2)	260 (2.3)
Texas	15 (2.5)	260 (4.6)	41 (4.3)	270 (2.6) >	44 (4.6)	261 (1.9) >
Utah	12 (1.3)	265 (2.6)	44 (3.5)	274 (1.3)	44 (3.7)	275 (1.2)
Virginia	23 (2.7)	268 (3.0)	64 (3.1)	269 (1.5)	13 (2.6)	256 (2.9)
West Virginia	21 (3.7)	255 (2.1)	54 (4.3)	260 (1.3)	25 (3.0)	259 (2.6)
Wisconsin	16 (2.6)	273 (2.6)	73 (3.4)	280 (1.8)	11 (2.4)	274 (4.4)!
Wyoming	18 (3.1)	268 (2.6)	69 (3.5)	276 (0.9) >	13 (2.0)	277 (3.5)
TERRITORIES						
Guam	0 (0.2) «	*** (***)	54 (1.0) »	234 (1.4)	45 (0.9) «	238 (1.6) >
Virgin Islands	3 (0.4) »	*** (***)	27 (1.2) «	223 (1.9)	71 (1.3) »	221 (1.4) >

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 10.21 | **Teachers' Reports on the Availability of Computers for Student Use (continued)**

PUBLIC SCHOOLS	Grade 8 - 1990					
	Available in Classroom		Difficult to Access		Not Available	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (4.0)	262 (3.5)	50 (4.7)	261 (2.2)	28 (4.2)	266 (2.9)
Northeast	12 (9.1)	*** (***)	67(11.3)	271 (4.5)!	21 (8.3)	270 (9.3)!
Southeast	30 (8.4)	253 (4.7)!	51(10.4)	257 (4.5)!	19 (6.7)	264 (6.6)!
Central	28 (9.0)	263 (5.6)!	54 (7.2)	263 (4.8)	18 (6.4)	256 (9.7)!
West	16 (7.2)	272 (6.9)!	39 (8.7)	254 (3.9)!	45(10.0)	270 (2.9)!
STATES						
Alabama	13 (3.1)	256 (2.9)!	59 (4.3)	253 (1.7)	28 (3.7)	252 (2.4)
Arizona	22 (2.7)	258 (3.1)	44 (3.2)	262 (1.7)	34 (3.2)	258 (2.8)
Arkansas	16 (3.5)	255 (3.4)!	38 (2.7)	258 (1.9)	46 (3.9)	258 (1.5)
California	28 (3.0)	253 (2.8)	45 (3.9)	258 (1.9)	27 (3.9)	257 (3.4)
Colorado	16 (2.7)	269 (2.6)	69 (3.3)	269 (1.2)	15 (2.1)	257 (2.3)
Connecticut	27 (3.2)	271 (2.5)	56 (3.6)	273 (1.4)	17 (2.4)	261 (2.6)
Delaware	13 (0.9)	254 (3.2)	53 (1.1)	264 (1.3)	35 (0.9)	259 (1.4)
Dist. Columbia	18 (1.1)	228 (1.4)	72 (1.1)	235 (1.1)	10 (0.6)	229 (2.1)
Florida	19 (2.4)	257 (3.9)	41 (3.6)	258 (1.9)	40 (3.6)	254 (1.6)
Georgia	28 (3.7)	257 (2.2)	46 (3.8)	259 (2.1)	26 (3.5)	258 (3.0)
Hawaii	10 (0.6)	254 (3.7)	64 (1.1)	252 (1.0)	27 (0.9)	250 (1.6)
Idaho	11 (1.1)	262 (2.6)	48 (2.0)	273 (1.0)	41 (2.1)	272 (1.3)
Indiana	14 (2.4)	268 (2.7)	68 (3.8)	267 (1.6)	19 (3.5)	270 (2.6)
Iowa	23 (4.4)	274 (2.3)!	68 (4.3)	278 (1.3)	9 (2.7)	284 (4.8)!
Kentucky	15 (3.2)	253 (3.0)	45 (3.6)	259 (1.2)	40 (4.8)	256 (2.2)
Louisiana	11 (2.6)	251 (4.2)!	32 (4.3)	249 (2.1)	57 (4.2)	245 (1.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	16 (2.5)	266 (3.1)	68 (3.0)	264 (2.1)	16 (1.9)	246 (3.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	20 (2.8)	269 (2.1)	47 (3.6)	267 (2.3)	33 (3.6)	259 (2.1)
Minnesota	23 (3.0)	274 (2.4)	71 (3.2)	277 (1.0)	7 (1.9)	274 (3.7)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	17 (2.2)	273 (3.0)	61 (3.3)	275 (1.5)	23 (3.2)	280 (1.3)
New Hampshire	24 (1.3)	275 (1.7)	60 (1.3)	273 (1.7)	16 (0.9)	269 (1.4)
New Jersey	19 (3.0)	270 (4.0)	55 (4.0)	271 (2.3)	26 (3.7)	266 (2.6)
New Mexico	12 (0.8)	252 (2.1)	66 (1.1)	258 (0.9)	22 (0.9)	256 (1.7)
New York	10 (2.0)	268 (3.8)!	66 (3.9)	263 (1.7)	24 (3.3)	252 (4.0)
North Carolina	21 (3.1)	255 (2.6)	58 (3.6)	249 (1.6)	20 (3.1)	252 (3.1)
North Dakota	20 (3.0)	281 (4.4)	61 (3.3)	283 (1.1)	19 (2.6)	278 (2.9)
Ohio	20 (3.0)	259 (2.7)	61 (4.1)	268 (1.7)	18 (3.1)	264 (2.6)
Oklahoma	13 (2.7)	261 (3.6)!	47 (4.1)	265 (2.2)	39 (4.3)	263 (2.0)
Pennsylvania	15 (2.8)	268 (3.3)	60 (3.9)	269 (1.9)	24 (3.1)	261 (4.1)
Rhode Island	16 (1.0)	261 (1.8)	66 (0.8)	262 (0.9)	18 (0.8)	256 (1.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	13 (2.5)	251 (3.5)!	43 (4.1)	258 (2.3)	45 (4.3)	255 (2.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	19 (2.8)	268 (3.2)	65 (3.4)	265 (1.8)	16 (2.5)	252 (3.8)
West Virginia	26 (3.6)	254 (1.7)	44 (4.5)	259 (1.6)	31 (3.2)	256 (2.2)
Wisconsin	21 (3.9)	272 (3.0)	68 (4.1)	277 (1.7)	11 (2.9)	272 (4.0)!
Wyoming	25 (1.7)	269 (1.2)	64 (1.7)	273 (0.8)	11 (0.8)	279 (2.3)
TERRITORIES						
Guam	13 (0.6)	228 (2.7)	24 (0.8)	234 (1.8)	63 (0.7)	232 (1.1)
Virgin Islands	1 (0.0)	*** (***)	41 (0.7)	226 (1.4)	58 (0.7)	215 (1.4)

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TABLE 10.22 Students' Reports on the Frequency of Computer Use for Schoolwork, Grades 4, 8, and 12

	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Grade 4	6 (0.6)	203 (2.3)	18 (1.2)	217 (1.6)	10 (0.6)	233 (1.6)	66 (1.4)	218 (0.9)
Grade 8	8 (0.7)	270 (2.5)	14 (0.7)	274 (1.9)	20 (0.7)	281 (1.5)	58 (1.2)	265 (0.8)
Grade 12	17 (0.8)	300 (1.3)	14 (0.6)	314 (1.6)	23 (0.9)	308 (1.4)	46 (1.2)	291 (0.8)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.23 | Students' Reports on the Frequency of Computer Use for Schoolwork

PUBLIC SCHOOLS	Grade 4 - 1992							
	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	6 (0.7)	202 (2.3)	18 (1.3)	216 (1.8)	10 (0.6)	233 (1.9)	66 (1.5)	217 (1.0)
Northeast	3 (0.7)	*** (***)	13 (1.9)	221 (6.1)	14 (1.7)	240 (3.4)	69 (2.5)	220 (2.3)
Southeast	9 (2.0)	192 (4.4)!	16 (2.4)	206 (2.7)	7 (1.1)	224 (4.2)	68 (2.4)	210 (2.3)
Central	5 (1.0)	212 (4.6)!	15 (3.1)	219 (4.4)!	11 (1.4)	231 (3.2)	69 (3.7)	222 (2.6)
West	7 (1.2)	205 (4.9)	24 (2.7)	217 (3.0)	9 (0.7)	233 (3.7)	59 (3.0)	216 (1.5)
STATES								
Alabama	6 (0.7)	192 (2.6)	21 (2.3)	201 (2.6)	6 (0.6)	214 (3.8)	66 (2.4)	209 (1.7)
Arizona	6 (1.0)	198 (4.2)	20 (2.3)	213 (3.0)	8 (0.6)	226 (2.4)	65 (2.3)	214 (1.0)
Arkansas	16 (1.7)	206 (2.2)	20 (1.9)	208 (1.4)	4 (0.5)	218 (5.3)	59 (2.6)	209 (1.1)
California	7 (1.2)	193 (3.9)	25 (2.5)	207 (2.8)	10 (1.0)	219 (2.9)	57 (2.7)	207 (1.6)
Colorado	5 (0.5)	217 (3.6)	21 (1.7)	219 (1.8)	12 (0.9)	228 (2.2)	62 (1.8)	219 (1.2)
Connecticut	10 (1.5)	214 (4.2)	16 (1.6)	223 (2.5)	13 (1.0)	238 (2.1)	62 (2.1)	226 (1.3)
Delaware	6 (0.7)	208 (2.5)	11 (0.8)	214 (3.2)	9 (0.7)	231 (3.7)	74 (1.1)	216 (0.9)
Dist. Columbia	10 (0.6)	179 (1.8)	18 (0.7)	191 (1.4)	8 (0.5)	206 (3.0)	64 (0.9)	192 (0.8)
Florida	8 (1.4)	203 (3.9)	19 (1.8)	211 (2.1)	8 (0.7)	227 (3.2)	64 (2.4)	212 (1.7)
Georgia	10 (1.3)	194 (3.0)	17 (2.0)	207 (2.3)	8 (0.7)	224 (3.0)	65 (2.3)	218 (1.4)
Hawaii	5 (0.5)	190 (3.5)	29 (2.1)	212 (2.0)	9 (0.6)	224 (2.6)	57 (2.0)	214 (1.4)
Idaho	3 (0.4)	214 (3.5)	21 (2.2)	222 (1.9)	7 (0.7)	230 (1.8)	68 (2.4)	219 (1.1)
Indiana	5 (0.6)	215 (4.8)	21 (1.9)	222 (1.8)	8 (0.6)	229 (2.1)	66 (1.9)	218 (1.3)
Iowa	7 (1.1)	227 (3.0)	15 (1.8)	227 (2.9)	12 (0.9)	237 (2.2)	66 (2.2)	228 (1.2)
Kentucky	8 (1.5)	207 (4.6)	19 (1.8)	212 (1.7)	6 (0.7)	225 (4.2)	68 (2.1)	214 (0.9)
Louisiana	6 (0.8)	186 (3.0)	14 (1.9)	200 (3.2)	6 (1.1)	217 (4.9)	74 (2.4)	204 (1.5)
Maine	3 (0.6)	*** (***)	15 (1.7)	233 (2.0)	15 (1.2)	238 (1.9)	67 (2.4)	229 (1.0)
Maryland	11 (1.9)	206 (6.1)	21 (1.8)	216 (2.3)	10 (0.8)	228 (2.3)	58 (2.3)	216 (1.6)
Massachusetts	5 (1.3)	219 (5.6)!	21 (2.1)	223 (2.5)	13 (0.9)	234 (2.4)	61 (2.6)	225 (1.3)
Michigan	5 (1.0)	206 (4.6)	17 (1.8)	218 (2.7)	10 (0.9)	225 (2.6)	68 (2.3)	219 (1.9)
Minnesota	5 (0.9)	223 (3.6)	22 (1.5)	226 (1.8)	13 (1.1)	234 (1.9)	60 (1.9)	228 (0.9)
Mississippi	13 (1.7)	189 (2.3)	28 (2.7)	195 (2.3)	3 (0.5)	204 (4.1)	55 (2.9)	205 (1.3)
Missouri	6 (1.5)	217 (7.5)!	15 (1.8)	224 (2.3)	8 (0.8)	229 (2.8)	71 (2.3)	220 (1.4)
Nebraska	5 (1.1)	219 (5.3)!	18 (2.3)	225 (2.5)	11 (1.1)	234 (2.4)	66 (2.6)	223 (1.4)
New Hampshire	4 (0.8)	226 (2.7)	18 (1.9)	232 (1.8)	14 (0.8)	239 (1.8)	64 (2.2)	226 (1.3)
New Jersey	5 (0.8)	215 (4.0)	21 (2.3)	230 (2.9)	10 (1.0)	235 (2.5)	63 (2.6)	225 (1.5)
New Mexico	5 (0.6)	205 (5.2)	22 (2.0)	214 (2.0)	6 (0.8)	219 (3.9)	68 (2.1)	211 (1.5)
New York	6 (1.3)	215 (4.7)!	25 (2.6)	216 (2.2)	9 (0.8)	227 (3.1)	60 (3.1)	217 (1.4)
North Carolina	9 (1.4)	199 (3.2)	23 (2.3)	210 (2.1)	7 (0.6)	224 (2.8)	61 (2.6)	212 (1.4)
North Dakota	4 (0.9)	216 (3.5)!	14 (1.9)	230 (1.8)	7 (0.8)	234 (2.4)	75 (2.3)	227 (0.9)
Ohio	4 (0.7)	204 (5.9)	10 (0.9)	215 (2.3)	10 (0.9)	231 (2.6)	76 (1.6)	217 (1.2)
Oklahoma	6 (1.5)	215 (3.5)!	22 (2.4)	220 (1.8)	6 (0.7)	229 (3.2)	66 (2.6)	218 (1.2)
Pennsylvania	6 (1.7)	221 (8.6)!	20 (2.0)	221 (2.3)	10 (0.8)	234 (2.3)	64 (2.6)	223 (1.5)
Rhode Island	6 (1.2)	202 (4.0)	14 (1.6)	208 (2.7)	10 (0.8)	224 (2.9)	69 (2.1)	215 (1.7)
South Carolina	13 (1.8)	192 (2.2)	16 (1.7)	211 (2.6)	7 (0.6)	220 (2.8)	64 (2.4)	214 (1.1)
Tennessee	6 (1.2)	196 (3.6)	13 (1.5)	206 (3.0)	6 (0.6)	216 (3.1)	74 (1.9)	211 (1.4)
Texas	9 (2.0)	210 (4.1)!	28 (2.5)	218 (1.9)	7 (0.6)	227 (3.1)	56 (3.2)	217 (1.5)
Utah	12 (2.2)	221 (2.7)	26 (2.7)	226 (1.5)	10 (0.9)	228 (2.1)	52 (2.9)	221 (1.3)
Virginia	6 (1.0)	211 (3.1)	19 (1.6)	215 (2.4)	13 (1.6)	230 (3.4)	62 (2.5)	220 (1.5)
West Virginia	6 (1.0)	209 (3.9)	15 (1.9)	214 (2.3)	7 (0.7)	227 (2.4)	71 (2.5)	213 (1.1)
Wisconsin	7 (1.3)	213 (5.2)!	17 (1.7)	228 (2.3)	10 (0.8)	234 (2.2)	66 (2.2)	228 (1.0)
Wyoming	9 (1.5)	220 (2.5)	29 (2.1)	225 (1.4)	9 (0.7)	231 (2.0)	54 (2.5)	223 (1.1)
TERRITORY								
Guam	10 (0.7)	173 (2.7)	33 (0.9)	191 (1.3)	5 (0.4)	186 (5.0)	53 (1.0)	195 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 10.23 | Students' Reports on the Frequency of Computer Use for School Work (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	8 (0.8)	266 (2.6)	13 (0.7)	271 (2.1)	19 (0.9)	281 (1.6)	60 (1.3)	264 (0.8)
Northeast	6 (1.2)	*** (***)	15 (1.5)	272 (5.2)	21 (1.8)	284 (4.4)	58 (3.5)	264 (2.4)
Southeast	7 (0.7)	252 (4.3)	8 (1.1)	262 (3.5)	14 (1.2)	270 (2.9)	71 (1.8)	258 (1.2)
Central	7 (1.7)	273 (4.1)!	14 (1.8)	276 (3.3)	23 (1.8)	284 (3.0)	57 (3.0)	271 (2.0)
West	11 (2.0)	268 (3.8)	15 (1.1)	272 (3.6)	19 (1.9)	282 (2.8)	55 (2.7)	264 (2.1)
STATES								
Alabama	6 (0.9)	247 (2.9)	10 (1.1)	251 (3.7)	13 (1.0)	262 (3.3)	70 (1.9)	253 (1.7)
Arizona	8 (0.8)	266 (3.1)	12 (1.0)	267 (3.2)	20 (1.3)	278 (2.3)	60 (2.0)	263 (1.1)
Arkansas	8 (1.1)	247 (3.3)	11 (1.2)	254 (2.2)	10 (0.7)	269 (2.9)	71 (1.7)	257 (1.3)
California	7 (0.6)	268 (4.3)	15 (1.7)	273 (3.5)	22 (1.2)	272 (2.4)	56 (1.9)	259 (1.5)
Colorado	11 (0.8)	274 (2.6)	17 (1.1)	282 (2.1)	24 (1.1)	279 (1.7)	48 (1.8)	266 (1.2)
Connecticut	5 (0.5)	274 (4.8)	18 (1.3)	278 (2.8)	27 (1.0)	285 (1.7)	50 (1.6)	269 (1.6)
Delaware	6 (0.5)	258 (4.9)	13 (0.7)	267 (2.4)	18 (1.1)	277 (2.2)	63 (1.2)	260 (1.1)
Dist. Columbia	9 (0.8)	230 (3.6)	17 (1.1)	240 (2.6)	20 (1.3)	248 (2.4)	53 (1.2)	234 (1.4)
Florida	7 (0.8)	267 (3.4)	9 (0.8)	265 (3.0)	16 (1.0)	274 (2.7)	68 (1.5)	257 (1.4)
Georgia	7 (0.8)	246 (3.8)	10 (1.0)	260 (3.1)	16 (1.2)	272 (2.0)	67 (1.8)	259 (1.2)
Hawaii	7 (0.5)	262 (3.6)	11 (0.7)	266 (3.0)	20 (0.9)	267 (2.0)	63 (1.0)	257 (0.9)
Idaho	10 (1.4)	279 (2.6)	10 (0.8)	278 (2.2)	21 (1.1)	282 (1.7)	58 (1.8)	273 (0.9)
Indiana	6 (0.6)	274 (3.3)	12 (1.1)	275 (2.5)	19 (0.9)	281 (2.4)	63 (1.6)	266 (1.3)
Iowa	9 (1.1)	282 (2.1)	18 (1.6)	287 (1.7)	25 (1.3)	290 (1.5)	48 (2.1)	279 (1.2)
Kentucky	5 (0.8)	261 (3.2)	13 (1.7)	266 (2.8)	18 (1.3)	271 (2.1)	63 (1.9)	260 (1.3)
Louisiana	7 (1.1)	246 (4.5)	10 (1.0)	253 (3.1)	12 (0.8)	260 (3.0)	71 (1.7)	250 (1.6)
Maine	11 (1.0)	282 (2.5)	26 (1.7)	285 (2.0)	24 (1.2)	284 (1.5)	39 (2.0)	271 (1.2)
Maryland	4 (0.5)	266 (4.1)	16 (1.7)	264 (2.8)	27 (1.3)	278 (1.8)	53 (2.1)	262 (1.7)
Massachusetts	5 (0.8)	273 (5.4)	17 (1.2)	281 (2.3)	25 (1.3)	284 (1.7)	53 (2.0)	266 (1.3)
Michigan	10 (1.1)	269 (2.2)	12 (1.2)	279 (2.7)	18 (1.0)	279 (2.3)	60 (1.9)	264 (1.4)
Minnesota	5 (0.6)	285 (3.7)	11 (1.0)	286 (2.4)	32 (1.1)	288 (1.3)	52 (1.4)	279 (1.3)
Mississippi	7 (0.8)	239 (3.7)	13 (1.4)	236 (2.7)	9 (0.9)	259 (2.8)	71 (1.8)	250 (1.3)
Missouri	7 (0.7)	270 (3.0)	10 (0.8)	276 (2.9)	16 (1.1)	283 (1.7)	67 (1.7)	269 (1.1)
Nebraska	10 (1.4)	278 (2.4)	16 (1.5)	283 (2.5)	23 (1.4)	283 (1.9)	51 (2.5)	274 (1.1)
New Hampshire	7 (0.9)	279 (2.9)	18 (1.1)	286 (1.8)	26 (1.0)	283 (1.4)	48 (1.7)	273 (1.1)
New Jersey	6 (0.6)	278 (4.0)	19 (1.4)	280 (2.5)	21 (1.3)	285 (1.4)	54 (1.7)	266 (2.0)
New Mexico	11 (1.1)	264 (2.1)	11 (0.8)	266 (1.9)	21 (1.1)	265 (1.5)	56 (1.6)	257 (1.1)
New York	6 (0.7)	277 (5.2)	16 (1.4)	262 (3.9)	21 (1.1)	281 (2.5)	57 (1.8)	266 (2.0)
North Carolina	5 (0.7)	251 (3.6)	13 (1.1)	255 (3.1)	18 (0.9)	270 (1.9)	64 (1.5)	259 (1.0)
North Dakota	8 (1.1)	284 (2.9)	11 (1.2)	286 (3.2)	23 (1.4)	287 (1.6)	59 (1.7)	281 (1.3)
Ohio	5 (0.8)	271 (4.5)	10 (0.9)	271 (3.1)	19 (1.2)	276 (2.1)	66 (1.7)	266 (1.7)
Oklahoma	7 (0.9)	270 (3.7)	10 (1.1)	269 (2.8)	18 (1.5)	277 (2.2)	65 (2.1)	266 (1.3)
Pennsylvania	5 (0.7)	274 (4.2)	15 (1.0)	272 (2.7)	21 (1.2)	285 (2.1)	58 (1.4)	267 (1.4)
Rhode Island	5 (0.4)	268 (3.3)	16 (0.8)	273 (1.6)	22 (1.0)	272 (2.0)	57 (1.2)	263 (1.4)
South Carolina	12 (1.1)	248 (2.3)	12 (1.1)	262 (2.6)	16 (1.0)	275 (1.5)	60 (1.5)	261 (1.2)
Tennessee	4 (0.6)	261 (4.7)	8 (1.0)	259 (3.2)	14 (0.8)	265 (2.5)	75 (1.4)	258 (1.4)
Texas	15 (1.5)	266 (2.4)	14 (0.9)	271 (2.5)	16 (1.0)	278 (2.9)	55 (1.7)	263 (1.7)
Utah	10 (0.8)	276 (2.8)	18 (0.9)	280 (1.4)	29 (1.2)	279 (1.4)	44 (1.4)	270 (1.2)
Virginia	7 (1.1)	267 (3.0)	11 (0.7)	274 (2.4)	24 (1.2)	279 (1.7)	57 (1.7)	264 (1.4)
West Virginia	7 (0.6)	257 (3.5)	10 (0.9)	258 (2.2)	16 (1.1)	270 (2.0)	68 (1.5)	258 (1.1)
Wisconsin	7 (0.8)	279 (3.6)	18 (1.9)	283 (2.7)	25 (1.7)	284 (1.6)	51 (2.8)	274 (1.6)
Wyoming	12 (0.8)	276 (2.1)	14 (1.0)	279 (1.9)	25 (1.0)	279 (1.3)	49 (1.5)	271 (1.2)
TERRITORIES								
Guam	6 (0.8)	257 (5.6)	21 (1.0)	236 (2.7)	12 (1.0)	250 (2.9)	61 (1.4)	242 (1.6)
Virgin Islands	6 (0.8)	231 (4.1)	7 (0.7)	225 (4.6)	7 (0.7)	233 (3.3)	80 (1.3)	223 (1.2)

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TABLE 10.24 Teachers' Reports on the Frequency of Computer Use in Mathematics Class, Grades 4 and 8

	Assessment Years	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	**1992**	56 (3.0)>	219 (1.3)	20 (1.9)	219 (2.5)	24 (2.6)	215 (2.2)
	1990	44 (3.6)	217 (1.6)	23 (2.6)	219 (2.6)	33 (2.4)	208 (2.0)
High ability	**1992**	45 (6.8)	238 (3.3)	24 (8.0)	241(11.1)	31 (6.6)	235 (3.7)>
	1990	47(10.4)	245 (4.5)	26 (9.3)	240 (9.4)	27 (8.7)	216 (5.8)
Average ability	**1992**	58 (3.8)>	223 (1.7)	18 (2.8)<	222 (3.3)	24 (3.1)	219 (2.6)
	1990	41 (5.1)	216 (2.2)	31 (4.1)	217 (3.1)	28 (4.2)	211 (3.7)
Low ability	**1992**	49 (6.0)	198 (3.3)	14 (3.3)	193 (4.1)	37 (6.8)	194 (3.8)
	1990	52 (8.2)	208 (4.9)	13 (6.0)	198(16.1)	35 (7.5)	194 (4.2)
Mixed ability	**1992**	58 (4.2)	217 (1.6)	23 (3.2)	216 (2.7)	19 (3.2)<	215 (2.9)
	1990	45 (5.1)	213 (2.1)	22 (4.9)	218 (3.5)	33 (4.6)	208 (3.1)
Grade 8							
Nation	**1992**	10 (1.2)	259 (2.8)	18 (1.8)<	267 (2.1)	72 (1.9)>	271 (1.3)
	1990	14 (3.4)	252 (4.7)	33 (4.3)	265 (2.9)	53 (4.0)	265 (2.1)
High ability	**1992**	9 (2.1)	293 (6.0)	15 (2.4)<	294 (4.4)	76 (2.7)>	301 (2.0)>
	1990	12 (4.9)	286 (4.3)	30 (5.5)	291 (4.5)	58 (6.0)	286 (3.3)
Average ability	**1992**	10 (1.8)	258 (3.8)>	22 (2.9)<	265 (2.1)	69 (3.0)	267 (1.6)
	1990	9 (3.1)	240 (5.8)	38 (5.8)	264 (2.5)	53 (5.9)	261 (3.4)
Low ability	**1992**	12 (2.4)	225 (3.2)	19 (3.3)	246 (6.1)	69 (3.5)	247 (2.7)
	1990	20 (5.7)	228 (8.7)	26 (6.2)	245 (5.9)	54 (6.5)	249 (4.5)
Mixed ability	**1992**	11 (2.1)	257 (5.7)	14 (3.5)<	264 (4.5)	76 (3.3)>	261 (1.8)
	1990	17 (8.0)	252 (7.0)	37 (7.6)	255 (6.4)	46 (7.2)	259 (3.3)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.25 Students' Reports on the Frequency of Computer Use in Mathematics Class, Grades 4, 8, and 12

Use a computer	Assessment Years	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	1992	33 (1.1)	215 (1.0)	9 (0.6)	227 (1.7)	58 (1.3)>	220 (0.9)>
	1990	37 (1.9)	213 (1.7)	11 (0.9)	221 (2.5)	52 (2.0)	213 (1.1)
Grade 8	1992	16 (0.9)	257 (1.7)>	12 (0.7)	271 (2.0)	73 (1.1)	270 (1.0)>
	1990	16 (1.1)	249 (2.3)	14 (1.2)	268 (2.6)	70 (1.5)	265 (1.3)
Grade 12 - All Students	1992	16 (0.7)<	292 (1.6)	13 (0.6)	304 (1.5)	70 (1.0)	300 (0.9)
	1990	20 (0.8)	287 (1.5)	14 (1.2)	298 (2.7)	67 (1.3)	296 (1.2)
Grade 12 - Taking Math	1992	14 (0.7)<	299 (1.9)	13 (0.7)	314 (1.9)	72 (1.1)>	307 (1.0)
	1990	19 (1.2)	296 (2.8)	15 (1.4)	306 (2.8)	66 (1.7)	306 (1.3)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 10.26 | Teachers' Reports on the Frequency of Computer Use in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	55 (3.3)	218 (1.5)	20 (2.2)	218 (2.8)	24 (2.9)	214 (2.5)
Northeast	43 (8.9)	223 (4.1)!	25 (6.9)	221 (5.7)!	32 (7.8)	217 (5.3)!
Southeast	51 (6.0)	207 (1.7)	21 (3.1)	214 (5.5)	27 (5.8)	203 (3.6)!
Central	61 (6.2)	222 (2.6)	16 (4.3)	224 (3.7)!	23 (5.0)	227 (5.0)!
West	63 (5.0)	220 (2.6)	19 (3.5)	216 (7.2)!	18 (4.2)	212 (3.2)!
STATES						
Alabama	63 (3.8)	208 (2.1)	13 (3.1)	206 (4.0)!	24 (3.5)	205 (2.9)
Arizona	59 (3.4)	214 (1.5)	20 (2.3)	217 (2.4)	21 (3.0)	213 (2.6)
Arkansas	63 (4.9)	209 (1.5)	8 (1.7)	212 (3.3)	29 (4.6)	208 (2.8)
California	64 (3.9)	208 (2.0)	15 (2.6)	207 (4.8)	21 (3.1)	204 (3.7)
Colorado	51 (3.3)	220 (1.6)	25 (2.8)	219 (2.6)	24 (2.9)	221 (2.0)
Connecticut	52 (3.7)	228 (1.9)	19 (2.0)	229 (2.4)	30 (3.6)	226 (3.0)
Delaware	25 (1.1)	219 (2.1)	28 (1.0)	216 (1.3)	48 (1.3)	218 (1.4)
Dist. Columbia	42 (0.7)	195 (1.4)	23 (0.8)	193 (1.6)	35 (1.0)	185 (1.4)
Florida	72 (2.8)	213 (1.6)	15 (2.1)	212 (3.0)	13 (2.0)	212 (2.6)
Georgia	57 (3.7)	212 (1.9)	24 (3.3)	215 (2.5)	20 (2.9)	218 (2.4)
Hawaii	44 (3.4)	212 (2.2)	15 (2.2)	215 (2.9)	41 (3.2)	214 (2.0)
Idaho	54 (3.1)	220 (1.5)	17 (2.3)	221 (2.1)	29 (3.1)	220 (1.4)
Indiana	54 (3.6)	219 (1.4)	26 (3.2)	221 (2.0)	20 (3.7)	217 (3.0)
Iowa	50 (4.1)	230 (1.5)	27 (2.6)	229 (1.9)	23 (3.3)	227 (2.2)
Kentucky	50 (3.2)	214 (1.6)	19 (2.9)	215 (2.7)	31 (3.1)	211 (1.8)
Louisiana	28 (3.9)	204 (2.7)	12 (2.5)	212 (4.4)!	60 (4.6)	200 (2.0)
Maine	42 (4.1)	231 (1.4)	21 (2.8)	232 (2.1)	37 (3.9)	229 (1.8)
Maryland	54 (3.8)	219 (2.1)	18 (2.9)	218 (3.3)	28 (3.7)	217 (2.9)
Massachusetts	53 (4.3)	226 (2.0)	17 (2.6)	229 (2.5)	30 (3.9)	227 (2.7)
Michigan	47 (3.8)	222 (2.5)	25 (3.1)	219 (2.7)	29 (3.2)	213 (4.0)
Minnesota	49 (3.9)	229 (1.3)	26 (3.5)	230 (2.3)	25 (3.6)	221 (2.6)
Mississippi	52 (4.6)	200 (1.8)	8 (2.4)	197 (5.3)!	40 (4.4)	201 (2.4)
Missouri	53 (3.8)	223 (2.3)	17 (2.5)	220 (3.0)	30 (3.8)	221 (2.3)
Nebraska	56 (4.3)	225 (1.7)	23 (3.7)	226 (2.8)	21 (3.7)	222 (2.4)
New Hampshire	47 (3.9)	229 (1.5)	27 (2.9)	232 (2.4)	26 (3.7)	225 (2.4)
New Jersey	39 (4.1)	228 (2.5)	20 (3.2)	234 (2.5)	41 (4.0)	222 (2.6)
New Mexico	54 (3.8)	215 (1.7)	17 (2.6)	210 (2.1)	29 (4.0)	207 (2.4)
New York	48 (4.1)	218 (2.1)	16 (1.6)	220 (2.5)	36 (4.1)	214 (2.7)
North Carolina	64 (4.0)	212 (1.4)	17 (2.3)	212 (2.7)	19 (3.1)	213 (3.3)
North Dakota	52 (4.1)	226 (1.2)	24 (3.7)	229 (2.4)	24 (3.5)	230 (2.0)
Ohio	41 (4.2)	219 (2.1)	22 (3.0)	216 (2.6)	37 (4.1)	216 (1.9)
Oklahoma	57 (4.1)	220 (1.3)	18 (2.8)	220 (2.9)	25 (3.6)	219 (2.2)
Pennsylvania	42 (4.1)	224 (2.2)	26 (3.3)	226 (2.5)	32 (4.2)	220 (3.3)
Rhode Island	38 (3.7)	215 (2.3)	21 (2.7)	216 (2.2)	41 (4.1)	212 (2.8)
South Carolina	54 (3.5)	210 (1.5)	21 (3.0)	216 (2.6)	25 (2.8)	212 (2.3)
Tennessee	53 (4.4)	208 (2.1)	17 (3.1)	211 (3.2)	29 (3.8)	213 (2.5)
Texas	61 (4.5)	216 (2.0)	12 (2.4)	224 (2.5)!	27 (3.9)	216 (3.0)
Utah	60 (4.0)	223 (1.3)	14 (2.5)	228 (2.4)	26 (3.1)	221 (2.3)
Virginia	56 (2.9)	220 (1.8)	25 (2.5)	219 (2.8)	19 (2.5)	219 (3.4)
West Virginia	52 (4.1)	215 (1.6)	15 (2.5)	213 (2.3)	33 (3.9)	211 (1.8)
Wisconsin	54 (3.4)	226 (1.6)	22 (2.5)	233 (2.2)	24 (3.4)	229 (1.9)
Wyoming	64 (4.1)	225 (1.2)	20 (2.8)	223 (1.7)	16 (2.8)	225 (2.4)
TERRITORY						
Guam	75 (0.8)	192 (0.9)	7 (0.8)	182 (3.9)	18 (0.7)	193 (2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 10.26 | Teachers' Reports on the Frequency of Computer Use in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	8 (1.3)	252 (3.9)	18 (2.1)	266 (2.3)	74 (2.1)	270 (1.4)
Northeast	9 (2.5)	240 (7.3)!	11 (2.8)	266 (6.9)!	80 (3.7)	271 (3.9)
Southeast	6 (2.5)	251 (6.3)!	26 (4.4)	265 (2.6)	67 (4.5)	262 (1.9)
Central	8 (3.1)	265 (9.0)!	17 (3.6)	273 (3.9)!	75 (3.9)	276 (3.1)
West	9 (2.0)	253 (7.7)!	17 (3.9)	261 (5.8)!	74 (4.1)	270 (2.0)
STATES						
Alabama	11 (2.5)	243 (3.8)!	20 (2.8)<	256 (4.0)	69 (3.8)>	252 (2.3)
Arizona	15 (3.1)	256 (3.4)!	12 (2.7)<	267 (4.3)!	73 (4.6)	266 (1.5)
Arkansas	17 (2.9)	247 (4.2)	12 (2.3)	257 (3.3)!	71 (3.4)	258 (1.6)
California	13 (2.6)	258 (4.8)! >	16 (2.1)<	254 (4.6)	72 (3.4)>	263 (1.9)
Colorado	7 (1.3)	268 (5.6)	22 (2.8)<	275 (2.9)	71 (3.0)>	271 (1.2)
Connecticut	10 (2.2)	252 (6.2)!	21 (2.8)	277 (2.7)	69 (3.5)>	275 (2.0)>
Delaware	7 (0.5)	245 (5.7)	19 (0.7)«	259 (2.4)<	74 (0.7)»	265 (1.0)»
Dist. Columbia	15 (0.8)«	238 (2.6)	26 (1.0)«	233 (1.8)	59 (1.3)»	236 (1.6)>
Florida	10 (1.8)	251 (3.8)	17 (1.9)	262 (3.7)	72 (2.6)	260 (1.7)
Georgia	12 (2.0)	250 (3.6)	14 (1.8)«	258 (3.8)	75 (2.9)»	259 (1.5)
Hawaii	4 (0.3)	236 (4.4)	17 (0.8)«	256 (2.3)>	78 (0.8)»	259 (0.9)»
Idaho	7 (1.4)	273 (4.5)	12 (2.2)	274 (2.6)	80 (2.6)	275 (0.8)
Indiana	8 (1.9)	270 (3.3)!	21 (3.1)<	269 (3.1)	71 (3.7)	270 (1.5)
Iowa	5 (1.8)	276 (5.3)!	18 (3.4)«	282 (3.0)	77 (3.5)»	284 (1.2)>
Kentucky	9 (2.5)	248 (3.9)!	25 (3.6)	264 (2.9)	66 (4.2)	264 (1.3)>
Louisiana	13 (3.2)	252 (5.4)!	7 (1.9)	256 (5.7)!	80 (3.6)	249 (1.7)
Maine	10 (3.2)	275 (5.2)!	27 (4.2)	278 (2.7)	62 (5.0)	279 (1.1)
Maryland	10 (2.4)	258 (5.4)!	38 (3.4)	268 (2.6)	51 (4.0)>	266 (2.3)>
Massachusetts	10 (2.7)	260 (6.6)!	19 (2.8)	270 (2.6)	71 (3.7)	274 (1.5)
Michigan	4 (1.6)	265 (7.9)!	14 (2.5)<	269 (6.1)	83 (2.8)>	266 (1.6)
Minnesota	4 (1.6)	279 (6.6)!	22 (3.7)«	282 (2.7)	74 (3.7)»	281 (1.2)>
Mississippi	12 (2.7)	233 (4.0)!	11 (2.6)	238 (5.6)!	77 (3.9)	248 (1.5)
Missouri	8 (2.6)	259 (5.0)!	17 (2.5)	269 (2.3)	75 (3.5)	273 (1.4)
Nebraska	9 (2.5)	277 (4.7)!	19 (3.1)	277 (2.9)	71 (3.6)	278 (1.3)
New Hampshire	4 (2.0)<	280 (5.0)!	22 (3.1)«	280 (2.4)	74 (3.3)»	277 (1.1)>
New Jersey	15 (2.6)	245 (5.2)	18 (3.0)<	270 (4.6)	67 (4.0)	278 (1.9)
New Mexico	5 (0.9)«	253 (3.4)	22 (3.0)«	256 (1.5)	73 (3.0)»	261 (1.1)
New York	12 (2.8)	237 (8.2)!	14 (1.8)«	272 (3.3)	74 (3.1)>	269 (2.2)>
North Carolina	9 (2.3)	248 (4.6)!	29 (3.8)	255 (2.0)	62 (3.9)>	260 (1.5)»
North Dakota	7 (2.0)	283 (3.1)!	15 (2.6)«	278 (2.1)	78 (3.4)»	284 (1.3)
Ohio	6 (1.5)	252 (5.5)!	20 (3.4)<	271 (3.9)	75 (3.8)>	270 (1.6)
Oklahoma	13 (2.4)	260 (3.0)	15 (3.2)	266 (2.8)!	72 (3.7)	269 (1.5)>
Pennsylvania	5 (1.4)	259 (5.7)!	21 (3.6)<	277 (3.1)	74 (4.2)>	270 (1.6)
Rhode Island	6 (0.4)«	260 (1.7)	20 (0.5)«	265 (1.6)>	74 (0.6)»	266 (0.9)»
South Carolina	15 (2.7)	240 (4.1)	14 (2.6)	258 (3.3)	70 (3.2)	265 (1.6)
Tennessee	9 (2.1)	248 (4.6)!	19 (3.4)	252 (2.7)	72 (4.0)	260 (1.7)
Texas	10 (2.4)	257 (5.0)!	13 (2.4)	266 (5.3)	77 (3.4)	265 (1.6)»
Utah	7 (1.3)	265 (3.4)	14 (1.8)	273 (2.2)	79 (2.2)	275 (1.0)
Virginia	7 (1.7)	258 (5.7)!	24 (2.5)«	268 (2.7)	68 (2.9)»	268 (1.4)>
West Virginia	9 (2.1)	248 (3.6)!	15 (2.3)<	256 (2.6)	76 (3.1)>	260 (1.2)
Wisconsin	9 (2.5)	270 (4.9)!	26 (3.7)	277 (3.0)	65 (4.8)>	280 (1.9)
Wyoming	8 (1.7)«	264 (4.9)!	33 (3.3)<	276 (1.4)>	60 (3.6)»	275 (1.2)
TERRITORIES						
Guam	12 (0.5)	242 (2.7)>	8 (0.9)	228 (7.5)	80 (1.0)	234 (1.2)
Virgin Islands	0 (0.0)	*** (***)	12 (0.7)«	217 (2.6)	88 (0.7)»	221 (1.3)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 10.26 | Teachers' Reports on the Frequency of Computer Use in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	12 (3.5)	246 (5.2)!	34 (4.5)	264 (3.1)	54 (4.2)	266 (2.2)
Northeast	10 (8.4)	*** (***)	27 (8.4)	265 (8.4)!	63 (6.3)	274 (4.0)
Southeast	20(10.4)	*** (***)	36(10.7)	264 (5.0)!	44 (9.3)	256 (4.9)!
Central	10 (4.8)	*** (***)	44 (8.3)	266 (5.6)!	45 (6.6)	264 (4.9)
West	9 (3.7)	*** (***)	27 (7.5)	262 (7.3)!	64 (8.5)	267 (3.4)
STATES						
Alabama	13 (2.7)	248 (3.8)!	35 (4.0)	256 (2.5)	53 (4.6)	253 (1.7)
Arizona	13 (2.2)	248 (4.4)	24 (3.1)	262 (2.3)	63 (3.6)	261 (1.9)
Arkansas	15 (2.8)	250 (3.8)	17 (3.4)	256 (3.1)!	68 (3.6)	259 (1.1)
California	15 (2.8)	243 (3.9)	26 (3.6)	259 (3.2)	59 (4.1)	259 (1.9)
Colorado	10 (2.1)	259 (4.8)!	36 (3.7)	269 (1.7)	54 (4.0)	267 (1.4)
Connecticut	15 (3.1)	266 (4.2)!	33 (4.1)	276 (2.1)	52 (4.0)	268 (1.7)
Delaware	8 (0.3)	246 (1.8)	28 (0.6)	270 (2.4)	64 (0.7)	259 (1.2)
Dist. Columbia	22 (0.7)	234 (1.4)	36 (0.9)	237 (1.9)	42 (0.9)	230 (1.1)
Florida	14 (2.6)	248 (3.8)	21 (3.1)	265 (3.2)	64 (3.7)	257 (1.6)
Georgia	14 (2.7)	251 (3.1)	29 (3.1)	264 (2.2)	57 (3.8)	257 (1.8)
Hawaii	5 (0.5)	243 (5.1)	27 (0.9)	248 (1.9)	68 (1.0)	254 (1.0)
Idaho	7 (0.8)	262 (3.9)	18 (1.2)	270 (1.2)	76 (1.3)	273 (0.9)
Indiana	7 (1.6)	260 (4.8)!	35 (4.3)	268 (2.2)	58 (4.3)	269 (1.8)
Iowa	13 (3.4)	271 (3.7)!	41 (4.4)	279 (1.6)	46 (4.5)	278 (1.8)
Kentucky	12 (2.6)	255 (3.7)!	25 (4.1)	258 (2.3)	62 (4.6)	257 (1.5)
Louisiana	7 (2.2)	243 (6.8)!	12 (2.5)	251 (3.9)!	81 (3.5)	246 (1.4)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	18 (3.1)	254 (3.4)	44 (3.3)	270 (2.4)	38 (3.6)	256 (2.8)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	7 (2.1)	263 (4.1)!	25 (3.4)	272 (3.1)	68 (3.7)	262 (1.6)
Minnesota	6 (2.4)	269 (2.4)!	53 (3.9)	276 (1.4)	41 (3.9)	276 (1.6)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	9 (2.1)	275 (4.3)!	29 (2.6)	273 (1.8)	62 (2.6)	278 (1.3)
New Hampshire	10 (1.0)	270 (3.6)	36 (1.3)	277 (1.8)	54 (1.4)	271 (1.6)
New Jersey	16 (3.0)	248 (4.7)	30 (3.7)	278 (2.1)	53 (4.3)	272 (2.2)
New Mexico	11 (0.9)	246 (2.6)	35 (1.2)	259 (1.3)	54 (1.1)	258 (1.0)
New York	10 (2.1)	241 (5.4)!	31 (3.7)	268 (2.0)	58 (4.0)	260 (2.3)
North Carolina	16 (2.5)	245 (3.4)	39 (3.7)	255 (1.7)	45 (3.6)	250 (2.1)
North Dakota	11 (2.1)	271 (4.3)	37 (3.7)	284 (2.3)	52 (2.8)	282 (1.2)
Ohio	11 (2.1)	252 (4.4)	32 (3.7)	270 (2.4)	57 (3.8)	266 (1.6)
Oklahoma	10 (2.8)	257 (5.1)!	26 (4.2)	267 (2.2)	64 (4.2)	263 (1.6)
Pennsylvania	5 (1.4)	259(11.2)!	40 (4.0)	269 (2.0)	55 (4.3)	266 (2.7)
Rhode Island	8 (0.4)	264 (2.5)	29 (1.6)	259 (1.4)	62 (1.4)	261 (0.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	10 (2.0)	243 (6.9)	20 (3.3)	262 (2.8)	70 (3.9)	256 (1.7)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	8 (1.6)	252 (4.3)	44 (3.7)	269 (2.3)	48 (3.7)	260 (2.4)
West Virginia	12 (2.2)	251 (3.1)	25 (3.3)	257 (1.7)	63 (3.8)	258 (1.6)
Wisconsin	14 (3.1)	270 (3.7)!	37 (3.9)	277 (2.2)	49 (4.7)	275 (2.0)
Wyoming	14 (0.5)	273 (1.6)	43 (0.9)	271 (1.0)	43 (1.0)	274 (1.1)
TERRITORIES						
Guam	13 (0.5)	232 (2.0)	9 (0.3)	235 (1.8)	78 (0.5)	233 (1.0)
Virgin Islands	1 (0.4)	*** (***)	21 (0.9)	213 (3.0)	78 (1.0)	222 (0.9)

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TABLE 10.27 | Students' Reports on the Frequency of Computer Use in Mathematics Class

PUBLIC SCHOOLS	Grade 4 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	33 (1.2)	214 (1.1)	9 (0.6)	227 (1.8)	58 (1.4)	218 (1.0)
Northeast	26 (2.2)	218 (2.7)	10 (1.4)	232 (4.6)	64 (3.1)	224 (2.6)
Southeast	34 (1.6)	203 (2.0)	7 (1.1)	217 (4.1)	59 (1.9)	212 (2.3)
Central	30 (2.3)	220 (2.4)	12 (1.6)	228 (2.6)	59 (2.9)	222 (2.5)
West	40 (2.7)	217 (2.1)	9 (1.0)	228 (3.3)	51 (3.0)	216 (1.9)
STATES						
Alabama	33 (2.2)	203 (2.1)	9 (0.8)	213 (3.7)	59 (2.3)	209 (1.7)
Arizona	30 (1.6)	213 (2.0)	9 (0.6)	220 (2.6)	61 (1.6)	214 (1.1)
Arkansas	43 (2.9)	207 (1.2)	5 (0.4)	212 (3.4)	52 (2.9)	210 (1.3)
California	36 (2.4)	204 (2.5)	10 (0.9)	210 (2.3)	54 (2.2)	210 (1.9)
Colorado	29 (1.6)	220 (1.6)	13 (0.7)	226 (1.9)	58 (1.5)	219 (1.3)
Connecticut	32 (2.0)	223 (1.7)	13 (1.1)	232 (2.1)	55 (2.2)	227 (1.6)
Delaware	23 (0.7)	213 (1.8)	9 (0.8)	218 (3.1)	68 (0.9)	218 (0.9)
Dist. Columbia	29 (0.8)	188 (1.1)	9 (0.6)	198 (3.0)	62 (0.9)	193 (0.7)
Florida	33 (1.9)	211 (1.7)	9 (0.7)	216 (3.3)	57 (1.7)	213 (1.7)
Georgia	33 (2.7)	205 (2.1)	10 (0.9)	220 (2.7)	57 (2.5)	219 (1.3)
Hawaii	35 (1.6)	209 (2.0)	8 (0.6)	215 (2.9)	57 (1.5)	216 (1.4)
Idaho	27 (1.6)	220 (1.5)	9 (0.7)	224 (2.2)	63 (1.7)	220 (1.0)
Indiana	31 (1.8)	219 (1.7)	11 (0.7)	226 (2.0)	59 (1.8)	219 (1.2)
Iowa	27 (1.7)	227 (1.9)	14 (1.0)	236 (2.1)	59 (1.8)	229 (1.1)
Kentucky	32 (2.1)	210 (1.8)	8 (0.7)	220 (3.1)	61 (2.1)	215 (1.1)
Louisiana	21 (1.9)	195 (2.2)	7 (0.8)	208 (4.3)	72 (2.2)	205 (1.5)
Maine	24 (2.1)	229 (2.0)	14 (1.1)	233 (2.3)	62 (2.1)	232 (1.1)
Maryland	37 (2.3)	214 (2.4)	10 (0.7)	222 (2.9)	53 (2.3)	218 (1.5)
Massachusetts	31 (2.1)	222 (1.8)	12 (0.9)	231 (2.6)	57 (2.1)	227 (1.3)
Michigan	30 (2.0)	216 (2.3)	11 (0.8)	227 (2.1)	59 (2.0)	219 (2.1)
Minnesota	31 (1.4)	226 (1.3)	15 (0.9)	232 (1.7)	54 (1.5)	228 (1.1)
Mississippi	41 (2.7)	196 (1.6)	6 (0.6)	199 (4.2)	53 (2.5)	205 (1.3)
Missouri	28 (1.6)	220 (2.1)	10 (0.9)	226 (2.5)	62 (2.0)	222 (1.4)
Nebraska	29 (1.9)	221 (1.9)	12 (0.9)	235 (2.2)	59 (1.9)	224 (1.4)
New Hampshire	27 (2.0)	231 (2.0)	13 (1.0)	232 (1.9)	60 (2.4)	227 (1.3)
New Jersey	27 (2.1)	225 (2.2)	10 (1.0)	231 (2.6)	63 (2.4)	226 (1.6)
New Mexico	27 (1.6)	211 (1.6)	7 (0.7)	222 (4.1)	66 (1.7)	212 (1.6)
New York	33 (2.2)	216 (2.0)	10 (0.8)	223 (2.7)	58 (2.3)	218 (1.3)
North Carolina	38 (2.2)	210 (1.5)	10 (0.7)	218 (2.2)	52 (2.2)	213 (1.4)
North Dakota	28 (2.2)	226 (1.3)	9 (0.9)	232 (2.0)	63 (2.0)	228 (1.1)
Ohio	20 (1.5)	216 (2.2)	11 (1.0)	228 (2.5)	69 (1.9)	217 (1.3)
Oklahoma	31 (1.9)	219 (1.5)	8 (0.6)	223 (2.9)	62 (1.8)	219 (1.2)
Pennsylvania	31 (2.2)	222 (2.0)	12 (0.8)	230 (2.2)	57 (2.2)	224 (1.5)
Rhode Island	28 (2.0)	210 (2.5)	11 (0.9)	218 (2.8	61 (2.3)	216 (1.6)
South Carolina	32 (2.1)	206 (1.8)	9 (0.7)	217 (2.6)	59 (2.1)	214 (1.2)
Tennessee	27 (2.0)	204 (2.1)	7 (0.6)	208 (2.8)	65 (2.0)	212 (1.5)
Texas	40 (2.8)	220 (1.8)	7 (0.6)	217 (3.1)	54 (2.8)	216 (1.4)
Utah	41 (2.2)	225 (1.3)	9 (0.8)	226 (2.5)	50 (2.0)	221 (1.3)
Virginia	30 (1.9)	216 (1.7)	13 (1.0)	226 (3.0)	57 (1.9)	221 (1.5)
West Virginia	29 (2.0)	212 (1.9)	10 (0.9)	222 (1.8)	61 (2.2)	214 (1.2)
Wisconsin	30 (1.8)	223 (1.7)	12 (0.9)	234 (2.2)	59 (2.0)	229 (1.1)
Wyoming	40 (1.6)	225 (1.1)	10 (0.7)	225 (1.9)	50 (1.7)	224 (1.2)
TERRITORY						
Guam	50 (1.2)	191 (1.1)	5 (0.5)	178 (4.5)	45 (1.2)	194 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 10.27 | Students' Reports on the Frequency of Computer Use in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	15 (0.9)	254 (1.9)	12 (0.8)	270 (2.2)	73 (1.3)	269 (1.0)
Northeast	17 (1.6)	250 (3.5)	10 (1.2)	264 (5.6)	73 (2.4)	273 (3.4)
Southeast	12 (1.4)	243 (3.9)	10 (1.5)	264 (2.5)	78 (2.5)	260 (1.4)
Central	17 (2.8)	265 (3.7)	14 (2.0)	278 (3.1)	69 (3.3)	274 (2.1)
West	16 (1.4)	254 (3.7)	12 (1.5)	270 (5.3)	72 (2.0)	269 (1.9)
STATES						
Alabama	15 (1.7)	241 (3.0)	11 (1.3)	254 (2.5)	74 (2.3)	253 (1.8)
Arizona	14 (1.7)	258 (2.6)	12 (1.3)	268 (2.9)	74 (2.6)	266 (1.2)
Arkansas	20 (2.0)	246 (2.8)	9 (0.9)	262 (3.7)	71 (2.2)	257 (1.3)
California	14 (1.3)	253 (3.8)	13 (1.1)	257 (2.7)	73 (1.6)	262 (1.8)
Colorado	13 (0.9)	266 (2.1)	14 (0.8)	273 (2.2)	73 (1.3)	273 (1.1) >
Connecticut	14 (1.4)	256 (3.5)	14 (1.0)	278 (2.5)	72 (1.8)	276 (1.4)
Delaware	12 (0.8) «	247 (3.5)	12 (0.7)	265 (2.9)	77 (0.8) >	264 (1.0)
Dist. Columbia	21 (0.9)	230 (1.9)	14 (0.7)	237 (2.5)	66 (1.0)	235 (1.3)
Florida	13 (1.2)	251 (2.7) >	10 (0.9)	261 (3.6)	78 (1.5)	260 (1.4)
Georgia	11 (0.9)	241 (2.2)	11 (1.1)	263 (2.5)	78 (1.4) >	261 (1.3)
Hawaii	12 (0.7)	243 (2.8)	12 (0.8)	251 (2.3)	76 (0.9)	260 (1.0) »
Idaho	13 (1.4)	272 (1.9)	10 (0.9)	275 (2.7)	76 (1.6)	275 (0.8)
Indiana	11 (1.6)	268 (2.7) >	13 (1.1)	270 (2.5)	75 (2.1)	270 (1.2)
Iowa	14 (1.1)	278 (1.9)	14 (1.1)	283 (2.1)	72 (1.5)	284 (1.0) »
Kentucky	14 (1.7)	255 (2.9)	12 (1.2)	260 (2.1)	75 (2.2)	263 (1.2) >
Louisiana	13 (1.5)	246 (3.4)	7 (0.9)	253 (3.8)	80 (2.1)	249 (1.7)
Maine	16 (1.5)	275 (2.6)	11 (1.0)	280 (2.6)	73 (1.8)	278 (1.0)
Maryland	15 (1.7)	245 (2.7)	21 (1.4)	270 (2.1)	63 (2.5)	267 (1.7) >
Massachusetts	11 (1.4)	261 (3.8)	11 (1.1)	269 (3.1)	78 (1.8)	274 (1.2)
Michigan	11 (0.7)	263 (2.8)	10 (0.8)	268 (3.1)	79 (1.2)	267 (1.5)
Minnesota	11 (1.0)	277 (2.5)	18 (1.1)	279 (2.0)	71 (1.5)	283 (1.0) »
Mississippi	17 (1.7)	231 (2.5)	7 (0.9)	243 (3.3)	76 (2.2)	249 (1.4)
Missouri	11 (1.1)	264 (2.5)	11 (0.8)	273 (2.5)	79 (1.5)	271 (1.4)
Nebraska	13 (1.2)	270 (2.6)	14 (1.3)	276 (3.1)	73 (1.9)	279 (1.1)
New Hampshire	13 (1.2)	271 (2.4)	12 (0.9)	276 (2.8)	75 (1.7) >	279 (1.1) >
New Jersey	15 (1.5)	261 (2.9)	10 (1.0)	275 (3.4)	76 (1.9)	273 (1.7)
New Mexico	12 (0.9)	25[illegible] ([illegible].1)	12 (1.3)	259 (2.6)	77 (1.8)	259 (1.1)
New York	14 (1.2)	24[illegible] (4.1)	10 (0.8)	272 (3.1)	76 (1.4)	269 (2.1)
North Carolina	16 (1.6)	243 (2.4)	13 (1.3) <	260 (2.5) >	71 (2.0)	260 (1.1) »
North Dakota	10 (0.9) <	281 (3.0)	13 (0.9)	281 (1.7)	77 (1.3) »	283 (1.1)
Ohio	11 (1.0)	263 (2.6)	12 (1.3)	270 (2.9)	77 (1.9)	268 (1.6)
Oklahoma	13 (1.9)	260 (2.6)	12 (1.4)	268 (2.4)	76 (2.2)	269 (1.2)
Pennsylvania	12 (1.1)	262 (3.3)	12 (1.3)	272 (3.0)	76 (1.6)	272 (1.4)
Rhode Island	13 (0.6)	258 (2.2)	15 (0.7)	268 (1.8)	72 (0.7)	266 (1.0) »
South Carolina	19 (1.5)	243 (2.1)	11 (1.2)	261 (2.3)	70 (1.9)	265 (1.2)
Tennessee	10 (1.0)	251 (3.1)	9 (0.7)	251 (2.6)	81 (1.3)	260 (1.4)
Texas	17 (1.4)	254 (2.3)	11 (1.1)	274 (3.6)	72 (1.9)	265 (1.4) >
Utah	16 (1.2)	272 (1.9)	15 (0.9)	271 (1.7)	69 (1.5)	275 (0.9
Virginia	11 (0.9)	255 (2.6)	17 (1.2)	272 (2.5)	72 (1.4)	268 (1.3)
West Virginia	13 (1.4)	248 (2.2)	11 (1.0)	262 (2.1)	77 (1.8)	260 (1.1)
Wisconsin	16 (1.6)	270 (2.4)	16 (1.2)	280 (1.8)	68 (2.1)	279 (1.5)
Wyoming	15 (1.3)	268 (2.5)	16 (1.2) «	279 (1.3)	69 (1.9) »	275 (0.9
TERRITORIES						
Guam	18 (0.9)	230 (2.9)	9 (0.5) »	227 (3.8)	74 (1.0)	237 (1.3)
Virgin Islands	8 (0.7)	224 (3.2) >	4 (0.5)	*** (***)	88 (0.8)	222 (1.2)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 10.27 | Students' Reports on the Frequency of Computer Use in Mathematics Class (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	At Least Weekly		Less than Once a Week		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	15 (1.2)	248 (2.4)	14 (1.3)	268 (2.8)	70 (1.6)	264 (1.4)
Northeast	18 (3.1)	258 (5.4)	14 (2.0)	271 (4.4)	68 (3.0)	273 (4.1)
Southeast	15 (2.6)	238 (5.7)	18 (2.9)	265 (4.2)	67 (4.0)	256 (2.4)
Central	14 (2.7)	251 (4.5)!	16 (3.5)	272 (6.2)!	70 (3.4)	266 (2.4)
West	15 (1.8)	245 (5.0)	11 (2.3)	264 (6.4)!	74 (2.7)	264 (2.3)
STATES						
Alabama	14 (1.9)	246 (2.2)	14 (1.8)	261 (2.9)	72 (3.0)	253 (1.3)
Arizona	15 (1.5)	251 (2.6)	10 (0.8)	262 (2.7)	74 (1.7)	261 (1.3)
Arkansas	18 (1.8)	249 (2.7)	10 (0.9)	256 (2.9)	72 (2.2)	258 (1.0)
California	17 (1.9)	244 (2.6)	12 (1.1)	261 (2.7)	71 (2.6)	259 (1.4)
Colorado	13 (1.2)	261 (3.3)	15 (0.9)	273 (2.1)	72 (1.7)	267 (1.0)
Connecticut	14 (1.0)	255 (2.8)	13 (0.9)	274 (2.5)	73 (1.5)	272 (1.1)
Delaware	17 (0.8)	250 (2.1)	11 (0.8)	266 (2.2)	72 (1.1)	263 (0.9)
Dist. Columbia	20 (1.0)	226 (1.7)	14 (0.7)	238 (3.2)	66 (1.2)	232 (0.9)
Florida	16 (1.4)	242 (2.7)	11 (1.1)	258 (2.6)	73 (2.1)	258 (1.3)
Georgia	14 (1.1)	245 (2.9)	13 (1.2)	263 (2.8)	73 (1.7)	261 (1.5)
Hawaii	12 (0.6)	235 (2.2)	11 (0.7)	248 (2.4)	77 (1.0)	254 (0.9)
Idaho	11 (0.7)	266 (2.6)	10 (0.7)	271 (2.0)	79 (0.9)	272 (0.8)
Indiana	11 (0.9)	257 (2.4)	15 (1.5)	266 (2.0)	75 (1.9)	269 (1.2)
Iowa	15 (1.3)	274 (2.5)	16 (1.4)	280 (2.4)	70 (2.0)	278 (1.1)
Kentucky	13 (1.7)	250 (3.5)	14 (1.5)	262 (2.0)	72 (2.6)	258 (1.2)
Louisiana	9 (0.8)	237 (2.6)	7 (0.8)	254 (3.4)	83 (1.4)	247 (1.3)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	19 (1.9)	250 (2.2)	21 (1.5)	269 (1.9)	60 (2.4)	261 (1.7)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	13 (1.6)	257 (2.6)	10 (0.8)	275 (2.6)	77 (1.9)	264 (1.2)
Minnesota	12 (1.2)	273 (2.8)	21 (1.8)	277 (1.6)	67 (2.0)	276 (1.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	14 (1.4)	272 (2.6)	14 (1.0)	281 (3.0)	72 (1.7)	276 (1.0)
New Hampshire	16 (0.9)	271 (2.2)	15 (0.9)	275 (1.9)	69 (1.1)	274 (1.2)
New Jersey	17 (1.3)	255 (2.6)	13 (1.4)	274 (2.7)	70 (1.9)	273 (1.2)
New Mexico	14 (0.7)	249 (2.2)	13 (0.8)	258 (1.8)	73 (1.0)	258 (0.9)
New York	17 (1.5)	242 (3.3)	12 (1.2)	265 (2.6)	71 (1.7)	265 (1.3)
North Carolina	16 (1.2)	236 (2.1)	19 (1.5)	253 (1.9)	65 (2.0)	253 (1.3)
North Dakota	15 (1.5)	273 (2.7)	15 (0.9)	285 (1.8)	70 (1.4)	282 (1.3)
Ohio	13 (1.2)	255 (2.5)	13 (1.2)	264 (3.4)	75 (1.9)	266 (1.1)
Oklahoma	11 (1.3)	252 (3.2)	10 (1.3)	265 (3.0)	79 (2.1)	265 (1.3)
Pennsylvania	11 (1.1)	257 (3.8)	14 (1.6)	270 (2.3)	75 (2.1)	268 (1.8)
Rhode Island	14 (0.6)	255 (2.1)	15 (0.7)	264 (1.7)	71 (0.8)	261 (0.6)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	16 (1.3)	248 (2.9)	11 (1.4)	267 (3.1)	74 (2.2)	259 (1.4)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	14 (1.6)	252 (2.7)	20 (1.7)	275 (3.2)	66 (2.4)	264 (1.9)
West Virginia	13 (1.5)	250 (2.4)	11 (1.1)	258 (1.9)	76 (2.2)	257 (1.0)
Wisconsin	17 (2.0)	266 (3.0)	20 (1.8)	279 (2.4)	63 (2.9)	276 (1.4)
Wyoming	17 (0.7)	267 (1.3)	22 (0.9)	274 (1.7)	61 (1.0)	273 (0.8)
TERRITORIES						
Guam	19 (0.9)	226 (1.6)	5 (0.5)	238 (4.7)	76 (1.0)	234 (0.9)
Virgin Islands	7 (0.6)	209 (3.7)	5 (0.5)	*** (***)	89 (0.9)	220 (0.9)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 10.28 Teachers' Reports on the Primary Use of Computers for Instruction, Grades 4 and 8

	Drill and Practice		Learning New Topics		Playing Learning Games		Do Not Use Computers	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4								
Nation	32 (2.5)	214 (1.8)	2 (0.7)	219 (7.9)	40 (2.2)	222 (1.5)	26 (2.6)	215 (2.1)
High ability	15 (4.6)	225 (5.5)	1 (1.4)	207 (8.1)	53 (7.1)	236 (2.9)	30 (7.0)	241 (5.0)
Average ability	35 (3.6)	218 (2.4)	1 (0.9)	236 (5.7)	40 (3.3)	226 (2.0)	25 (3.4)	218 (2.0)
Low ability	34 (6.0)	197 (3.6)	4 (2.0)	190 (5.9)	31 (5.4)	200 (5.5)	30 (6.1)	192(13.7)
Mixed ability	31 (4.1)	213 (2.6)	3 (1.4)	226 (8.7)	42 (4.1)	219 (1.8)	24 (3.8)	213 (3.1)

	Drill and Practice		Learning New Topics		Working With Data		Do Not Use Computers	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 8								
Nation	23 (2.3)	264 (2.2)	8 (1.2)	269 (4.1)	9 (1.4)	280 (2.9)	60 (2.6)	269 (1.5)
High ability	20 (3.3)	294 (4.0)	10 (2.6)	301 (5.4)	8 (2.0)	310 (4.2)	62 (3.9)	300 (2.3)
Average ability	24 (3.4)	262 (2.2)	8 (1.8)	261 (5.2)	9 (2.5)	276 (4.8)	59 (3.5)	266 (1.8)
Low ability	29 (4.6)	243 (4.9)	6 (1.8)	222 (3.4)	6 (1.8)	256 (8.1)	59 (4.5)	246 (3.1)
Mixed ability	18 (3.4)	257 (3.1)	9 (3.0)	268 (4.7)	12 (3.7)	272 (3.6)	62 (4.5)	260 (2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error. Please note difference in third question between grades 4 and 8.

TABLE 10.29 | Teachers' Reports on the Primary Use of Computers for Instruction

PUBLIC SCHOOLS	Grade 4 - 1992							
	Drill and Practice		Learning New Topics		Playing Learning Games		Do Not Use Computers	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	33 (2.8)	213 (1.9)	3 (0.8)	219 (7.9)!	40 (2.6)	221 (1.8)	25 (3.0)	213 (2.5)
Northeast	27 (5.9)	220 (4.8)!	3 (1.9)	*** (***)	35 (4.9)	227 (3.6)	35 (7.3)	217 (3.2)!
Southeast	39 (5.5)	205 (2.4)	1 (0.5)	*** (***)	31 (5.1)	211 (4.1)	29 (6.2)	205 (4.4)!
Central	33 (7.0)	221 (3.8)!	2 (1.3)	*** (***)	52 (5.7)	223 (3.7)	14 (4.6)	229 (8.8)!
West	30 (4.6)	211 (4.3)!	6 (2.4)	*** (***)	42 (4.8)	221 (2.8)	23 (5.5)	211 (3.3)!
STATES								
Alabama	41 (4.0)	208 (2.5)	0 (0.3)	*** (***)	38 (4.2)	209 (2.5)	20 (3.6)	200 (3.0)
Arizona	31 (3.2)	214 (2.1)	4 (1.2)	213 (6.4)!	41 (3.1)	216 (1.8)	23 (3.3)	213 (2.4)
Arkansas	50 (4.6)	208 (1.5)	5 (1.8)	212 (4.0)!	16 (2.6)	216 (3.2)	29 (4.5)	206 (2.5)
California	29 (3.2)	209 (2.6)	4 (1.5)	197 (7.3)!	47 (3.5)	210 (2.3)	20 (2.8)	202 (4.1)
Colorado	30 (2.8)	218 (2.0)	6 (1.8)	224 (4.0)!	45 (3.3)	222 (1.7)	20 (3.0)	217 (2.8)
Connecticut	28 (3.4)	226 (3.2)	3 (1.1)	*** (***)	48 (3.2)	230 (1.6)	21 (3.0)	220 (4.1)
Delaware	23 (1.2)	220 (1.7)	3 (0.3)	*** (***)	37 (0.8)	216 (1.3)	37 (0.9)	218 (1.7)
Dist. Columbia	28 (0.6)	191 (1.6)	7 (0.5)	201 (4.0)	28 (1.2)	197 (1.7)	37 (1.0)	184 (1.2)
Florida	39 (3.6)	210 (2.0)	3 (1.0)	217 (7.8)!	44 (3.5)	215 (1.7)	13 (2.8)	208 (3.1)!
Georgia	42 (3.5)	210 (2.4)	4 (1.4)	193 (6.7)!	42 (3.5)	219 (2.3)	13 (2.6)	217 (3.1)
Hawaii	13 (2.2)	203 (3.3)	4 (1.2)	212 (6.7)!	33 (2.9)	213 (2.4)	50 (3.1)	216 (1.9)
Idaho	28 (3.2)	220 (1.6)	1 (0.6)	*** (***)	42 (4.0)	220 (1.6)	29 (3.9)	222 (1.8)
Indiana	34 (3.3)	220 (1.6)	6 (1.8)	232 (3.4)!	47 (3.5)	218 (1.4)	13 (3.2)	220 (3.3)!
Iowa	33 (3.8)	229 (2.0)	4 (1.5)	221 (8.9)!	46 (3.7)	230 (1.5)	18 (3.1)	229 (3.0)
Kentucky	39 (4.1)	213 (2.1)	5 (1.6)	221 (6.2)!	25 (3.7)	214 (1.9)	31 (3.9)	213 (2.2)
Louisiana	18 (2.9)	200 (2.7)	2 (0.8)	*** (***)	22 (3.2)	212 (3.8)	58 (4.2)	200 (2.0)
Maine	17 (3.1)	229 (2.4)	5 (1.8)	236 (3.8)!	49 (3.8)	233 (1.4)	28 (3.9)	228 (2.5)
Maryland	35 (3.5)	217 (2.7)	8 (2.0)	228 (5.5)!	36 (3.3)	220 (2.6)	21 (3.2)	213 (3.5)
Massachusetts	25 (3.8)	222 (2.4	9 (2.3)	230 (4.8)!	41 (4.4)	230 (2.2)	25 (3.5)	224 (3.0)
Michigan	26 (3.0)	218 (3.1)	4 (1.3)	217(10.6)!	48 (4.2)	220 (2.5)	22 (3.1)	211 (4.5)
Minnesota	44 (3.9)	228 (1.7)	3 (1.6)	*** (***)	40 (3.9)	226 (2.2)	12 (3.1)	227 (3.3)!
Mississippi	[illegible] (3.7)	195 (1.7)	2 (1.1)	*** (***)	15 (3.0)	206 (3.9)!	40 (4.3)	201 (2.2)
Missouri	[illegible] (3.2)	222 (2.0)	3 (1.5)	227 (5.1)!	38 (3.8)	225 (1.8)	27 (4.2)	218 (3.3)
Nebraska	34 (3.1)	223 (1.6)	7 (2.1)	227 (5.6)!	47 (4.0)	227 (2.2)	12 (2.5)	225 (3.7)!
New Hampshire	30 (3.8)	228 (1.9)	3 (1.0)	*** (***)	49 (4.1)	231 (1.8)	18 (3.4)	227 (2.6)
New Jersey	23 (3.8)	234 (2.4)	1 (0.7)	*** (***)	38 (4.1)	231 (2.2)	38 (4.1)	219 (3.0)
New Mexico	31 (3.8)	212 (2.1)	2 (1.3)	*** (***)	45 (4.7)	215 (1.8)	22 (3.3)	205 (3.2)
New York	21 (2.6)	221 (2.2)	3 (1.1)	*** (***)	35 (3.5)	221 (2.5)	42 (4.4)	211 (2.5)
North Carolina	36 (3.0)	213 (2.0)	6 (1.6)	219 (4.5)!	44 (3.0)	211 (1.7)	14 (2.4)	213 (3.6)
North Dakota	33 (4.0)	226 (1.3)	3 (1.2)	235 (4.1)!	49 (4.3)	227 (1.8)	15 (3.1)	231 (2.1)!
Ohio	29 (3.5)	216 (2.3)	2 (0.9)	*** (***)	46 (4.0)	220 (1.8)	23 (3.6)	216 (2.6)
Oklahoma	38 (4.3)	219 (1.1)	4 (1.4)	224 (3.8)!	31 (3.8)	221 (2.2)	27 (3.9)	219 (2.2)
Pennsylvania	39 (4.0)	224 (1.8)	7 (2.2)	231 (4.4)!	24 (3.0)	226 (2.4)	29 (4.0)	216 (3.1)
Rhode Island	31 (3.7)	215 (2.6)	2 (1.1)	*** (***)	35 (3.5)	218 (2.8)	32 (3.6)	210 (3.0)
South Carolina	42 (3.2)	208 (2.0)	1 (0.5)	*** (***)	34 (3.4)	217 (1.8)	23 (2.5)	209 (2.5)
Tennessee	34 (2.9)	204 (2.2)	3 (1.3)	204 (8.5)!	33 (3.5)	214 (1.8)	30 (3.9)	212 (2.4)
Texas	34 (3.8)	213 (2.5)	6 (1.7)	221 (5.3)!	32 (4.2)	222 (3.1)	28 (4.0)	216 (3.2)
Utah	38 (4.0)	222 (1.5)	4 (1.6)	227 (5.2)!	35 (3.3)	224 (1.6)	23 (3.0)	224 (2.5)
Virginia	34 (3.4)	218 (2.0)	3 (1.1)	*** (***)	43 (3.6)	222 (2.3)	20 (3.3)	218 (4.8)
West Virginia	32 (3.2)	215 (2.0)	5 (1.8)	222 (4.1)!	40 (3.2)	214 (1.9)	23 (4.0)	209 (2.3)
Wisconsin	43 (3.3)	226 (1.7)	4 (1.2)	229 (8.4)!	39 (3.2)	232 (1.8)	15 (2.4)	230 (2.0)
Wyoming	44 (3.8)	225 (1.3)	7 (1.7)	224 (3.2)!	38 (3.6)	225 (1.5)	11 (2.3)	223 (2.9)!
TERRITORY								
Guam	59 (1.0)	191 (1.1)	9 (0.8)	197 (3.7)	13 (0.8)	192 (2.5)	19 (0.7)	189 (2.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 10.29 | Teachers' Reports on the Primary Use of Computers for Instruction (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Drill and Practice		Learning New Topics		Working With Data		Do Not Use Computers	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (2.6)	262 (2.4)	8 (1.4)	269 (4.1)	9 (1.6)	278 (2.9)	61 (2.8)	268 (1.6)
Northeast	16 (5.7)	250 (5.9)!	7 (3.3)	272(10.1)!	5 (2.0)	275(14.0)!	71 (4.8)	272 (4.8)
Southeast	25 (5.1)	259 (3.1)	5 (2.3)	266(11.9)!	8 (3.8)	274 (3.6)!	62 (7.5)	260 (1.4)
Central	28 (5.9)	277 (3.6)!	6 (2.1)	280 (9.2)!	16 (2.9)	279 (4.7)	49 (4.6)	273 (3.1)
West	20 (4.4)	257 (5.4)!	11 (3.2)	263 (4.7)!	8 (3.0)	282 (5.6)!	61 (4.6)	270 (2.0)
STATES								
Alabama	38 (4.8)	246 (3.7)	6 (2.2)	271 (6.0)!	2 (0.9)	*** (***)	53 (4.6)	253 (2.2)
Arizona	21 (3.2)	260 (3.6)	8 (2.4)	268 (3.6)!	8 (2.5)	266 (3.3)!	63 (4.5)	265 (1.5)
Arkansas	31 (3.9)	252 (2.7)	2 (0.9)	*** (***)	3 (1.5)	258 (5.6)!	63 (4.2)	258 (1.8)
California	22 (3.1)	258 (2.9)	13 (2.2)	263 (5.3)	5 (1.4)	259 (4.0)!	61 (3.8)	261 (2.2)
Colorado	22 (3.0)	265 (3.0)	12 (2.0)	283 (3.0)	10 (1.7)	284 (3.9)	57 (3.7)	269 (1.4)
Connecticut	22 (2.5)	273 (3.0)	11 (2.0)	282 (4.0)	11 (2.6)	278 (5.7)!	57 (4.3)	272 (2.2)
Delaware	28 (0.8)	253 (2.1)	2 (0.2)	*** (***)	6 (0.3)	265 (3.7)	64 (0.7)	266 (1.1)
Dist. Columbia	40 (1.0)	232 (1.4)	19 (0.6)	237 (2.0)	6 (0.5)	224 (4.1)	35 (1.0)	240 (1.9)
Florida	28 (2.8)	251 (2.4)	4 (1.5)	282 (6.0)!	7 (1.8)	268 (4.1)!	60 (3.2)	262 (1.9)
Georgia	35 (3.4)	256 (2.1)	4 (1.1)	263 (7.8)!	2 (0.6)	*** (***)	59 (3.9)	259 (1.7)
Hawaii	19 (0.8)	252 (2.3)	7 (0.6)	262 (3.8)	7 (0.6)	258 (2.8)	67 (1.0)	260 (1.0)
Idaho	18 (2.1)	271 (2.3)	9 (2.6)	275 (2.7)!	5 (1.5)	284 (4.5)!	68 (3.2)	275 (1.1)
Indiana	32 (4.1)	263 (2.3)	9 (2.2)	271 (4.5)!	7 (2.1)	284 (6.5)!	52 (4.5)	272 (1.7)
Iowa	27 (4.1)	281 (1.8)	8 (2.5)	286 (3.1)!	8 (1.5)	295 (3.8)	57 (4.3)	282 (1.6)
Kentucky	29 (3.8)	257 (2.4)	6 (1.6)	270 (4.1)!	6 (1.5)	269 (4.8)!	59 (4.0)	263 (1.3)
Louisiana	19 (3.6)	245 (4.1)	2 (1.0)	*** (***)	4 (1.8)	249(16.0)!	75 (4.1)	251 (1.7)
Maine	26 (4.4)	276 (2.9)	8 (1.7)	283 (3.2)	16 (3.9)	284 (4.6)!	50 (5.3)	278 (1.6)
Maryland	35 (3.7)	258 (2.9)	20 (3.3)	267 (4.7)	13 (2.9)	277 (5.4)!	31 (4.0)	267 (3.2)
Massachusetts	23 (3.8)	266 (3.0)	9 (2.3)	278 (6.4)!	7 (2.0)	281 (5.0)!	61 (4.4)	274 (1.7)
Michigan	15 (3.1)	260 (4.8)!	7 (1.9)	267 (7.8)!	4 (1.1)	288 (7.4)!	73 (3.7)	268 (1.4)
Minnesota	22 (4.1)	272 (2.3)	14 (2.3)	290 (3.5)	13 (2.4)	284 (3.7)	51 (4.2)	284 (1.5)
Mississippi	26 (4.2)	240 (2.7)	1 (0.8)	*** (***)	3 (1.3)	*** (***)	70 (4.6)	247 (1.9)
Missouri	24 (3.0)	267 (2.2)	11 (2.7)	278 (4.3)!	9 (2.2)	274 (2.7)!	56 (3.7)	272 (1.6)
Nebraska	16 (3.1)	268 (4.1)	16 (3.6)	282 (2.7)!	6 (2.1)	289 (3.3)!	63 (3.9)	278 (1.4)
New Hampshire	20 (2.7)	275 (2.1)	7 (1.6)	281 (3.0)!	11 (2.7)	284 (4.3)!	61 (3.8)	276 (1.3)
New Jersey	27 (3.7)	263 (4.5)	8 (2.4)	285 (7.1)!	5 (1.8)	282 (5.3)!	60 (4.6)	274 (2.1)
New Mexico	29 (3.4)	256 (1.8)	8 (1.9)	262 (4.2)!	10 (1.2)	269 (2.8)	53 (4.1)	260 (1.2)
New York	25 (3.3)	264 (4.1)	9 (2.6)	262 (6.8)!	8 (2.6)	268(13.8)!	58 (4.5)	267 (3.0)
North Carolina	42 (3.9)	253 (1.7)	4 (1.3)	268 (5.0)!	3 (0.8)	261 (6.7)!	50 (4.2)	259 (1.7)
North Dakota	18 (3.1)	279 (2.4)	6 (1.3)	294 (4.3)!	9 (1.8)	291 (2.3)	67 (3.2)	281 (1.3)
Ohio	26 (3.5)	264 (3.1)	9 (2.3)	274 (4.9)!	6 (2.0)	271 (4.7)!	59 (4.6)	271 (1.9)
Oklahoma	30 (4.0)	264 (2.3)	4 (1.5)	266 (6.7)!	4 (1.7)	*** (***)	63 (4.5)	269 (1.5)
Pennsylvania	25 (3.5)	270 (3.2)	8 (2.2)	278 (4.6)!	5 (1.3)	275 (6.0)!	61 (4.3)	270 (2.1)
Rhode Island	17 (0.8)	253 (2.3)	11 (0.5)	276 (1.6)	6 (0.9)	270 (2.4)	66 (0.9)	264 (1.2)
South Carolina	36 (3.4)	250 (2.3)	5 (1.4)	268 (5.6)!	3 (0.6)	278 (5.3)!	55 (3.9)	266 (1.8)
Tennessee	25 (3.3)	251 (2.7)	6 (2.4)	261 (4.9)!	5 (1.8)	274 (4.6)!	64 (4.3)	259 (1.8)
Texas	21 (3.2)	258 (3.5)	7 (1.6)	283 (8.0)!	7 (1.8)	285 (6.0)!	66 (4.3)	263 (1.6)
Utah	18 (2.6)	266 (2.1)	6 (1.1)	269 (4.7)	10 (1.8)	284 (4.1)!	66 (3.2)	274 (1.2)
Virginia	41 (2.9)	263 (2.0)	7 (1.2)	282 (4.3)	6 (1.3)	286 (6.6)!	46 (3.4)	266 (1.9)
West Virginia	34 (3.6)	257 (2.1)	2 (0.9)	*** (***)	3 (1.5)	256 (3.8)!	61 (3.7)	259 (1.4)
Wisconsin	23 (3.8)	269 (3.1)	19 (5.2)	280 (4.1)!	17 (3.6)	288 (1.8)!	41 (4.7)	279 (2.9)
Wyoming	28 (2.7)	270 (1.9)	17 (2.1)	280 (2.1)	7 (1.1)	281 (2.8)	48 (3.3)	276 (1.5)
TERRITORIES								
Guam	35 (1.2)	226 (1.6)	6 (0.5)	259 (4.5)	2 (0.3)	*** (***)	57 (1.3)	235 (1.7)
Virgin Islands	11 (0.8)	211 (2.4)	0 (0.0)	*** (***)	0 (0.0)	*** (***)	89 (0.8)	223 (1.4)

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CHAPTER ELEVEN

Characteristics of Fourth- and Eighth-Grade Mathematics Teachers

Overview

Because teachers are key figures in improving mathematics learning,[7] the NAEP assessment asked fourth- and eighth-grade teachers about their background and professional development in mathematics and mathematics pedagogy. As a result of the relatively low percentages of twelfth-grade students enrolled in mathematics classes, their teachers were not given questionnaires.

Specifically, teachers were queried about their background and training, including their experience, certification, undergraduate and graduate mathematics course work, and involvement in pre-service education. Teachers also were asked about how well they felt they were prepared to teach different mathematics subject areas, such as mathematical concepts or the use of computers.

Consistent with procedures used throughout this report, the student was the unit of analysis. That is, the mathematics teachers' responses were linked to their students, and the data are reported for the percentages of students taught by teachers with particular characteristics.

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[7] *Professional Standards for Teaching Mathematics* (Reston, VA: National Council of Teachers of Mathematics, 1991).

Years of Teaching Experience

TABLE 11.1 Teachers' Reports on Number of Years' Overall Teaching Experience at the Elementary or Secondary Level, Grades 4 and 8

	Overall Teaching Experience					
	10 Years or Less Experience		More than 10 Years But Less than 25 Years Experience		25 Years or More Experience	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	36 (2.2)	215 (1.5)	46 (2.3)	221 (1.2)	18 (1.4)	221 (1.9)
Grade 8	35 (1.7)	265 (1.7)	47 (1.9)	269 (1.3)	18 (1.6)	275 (2.2)
	Experience Teaching Mathematics					
	10 Years or Less Teaching Mathematics		**More than 10 Years But Less than 25 Years Teaching Mathematics**		**25 Years or More Teaching Mathematics**	
	Percent of Students	**Average Proficiency**	**Percent of Students**	**Average Proficiency**	**Percent of Students**	**Average Proficiency**
Grade 8						
Nation	44 (1.9)	265 (1.4)	43 (2.2)	271 (1.5)	13 (1.7)	276 (2.9)
White	42 (2.6)	274 (1.4)	44 (2.9)	280 (1.4)	14 (1.9)	283 (3.0)
Black	48 (3.3)	236 (1.7)	41 (3.7)	236 (2.2)	12 (2.5)	250 (5.8)
Hispanic	50 (2.5)	248 (2.0)	39 (2.3)	245 (2.1)	10 (2.1)	251 (4.2)
Male	43 (2.1)	266 (1.6)	43 (2.3)	269 (1.9)	14 (1.8)	275 (2.8)
Female	44 (2.1)	264 (1.6)	43 (2.4)	272 (1.6)	13 (1.6)	276 (3.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 11.2 | Teachers' Reports on Number of Years' Overall Teaching Experience at the Elementary or Secondary Level

PUBLIC SCHOOLS	Grade 4 - 1992					
	10 Years or Less Experience		More than 10 Years But Less than 25 Years Experience		25 Years or More Experience	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	35 (2.4)	213 (1.7)	46 (2.4)	220 (1.4)	19 (1.6)	221 (2.0)
Northeast	25 (5.7)	217 (4.5)!	58 (5.1)	225 (3.8)	17 (2.9)	225 (4.2)
Southeast	41 (4.7)	206 (3.7)	42 (3.6)	209 (2.7)	17 (3.2)	210 (5.3)
Central	33 (6.3)	221 (2.5)	44 (6.7)	223 (2.3)	23 (2.8)	228 (4.1)
West	38 (3.3)	212 (2.6)	44 (3.5)	221 (2.2)	18 (3.7)	219 (2.0)!
STATES						
Alabama	26 (2.5)	206 (2.6)	64 (3.1)	208 (1.8)	10 (2.1)	208 (4.1)!
Arizona	42 (2.4)	213 (1.8)	46 (2.4)	216 (1.4)	11 (2.1)	212 (2.2)
Arkansas	35 (3.3)	211 (2.2)	52 (3.5)	209 (1.1)	13 (2.1)	207 (2.3)
California	42 (3.9)	203 (2.4)	40 (3.7)	209 (2.4)	19 (2.5)	211 (3.5)
Colorado	34 (2.7)	219 (2.1)	51 (2.8)	219 (1.1)	15 (1.9)	223 (2.6)
Connecticut	25 (2.7)	224 (2.9)	56 (3.6)	229 (1.4)	19 (2.6)	225 (3.0)
Delaware	40 (1.0)	214 (1.0)	45 (1.0)	218 (1.1)	15 (0.6)	221 (1.8)
Dist. Columbia	28 (0.8)	191 (1.3)	38 (0.8)	191 (1.2)	34 (0.7)	190 (1.1)
Florida	41 (3.6)	213 (3.0)	47 (3.3)	214 (1.5)	12 (1.9)	209 (2.6)
Georgia	42 (3.1)	213 (2.1)	50 (3.2)	214 (1.9)	8 (1.8)	214 (4.4)!
Hawaii	39 (3.3)	213 (1.7)	39 (3.6)	215 (1.9)	22 (2.5)	210 (3.1)
Idaho	43 (3.0)	220 (1.3)	49 (3.1)	221 (1.2)	8 (1.5)	219 (2.6)
Indiana	28 (2.8)	218 (2.1)	53 (3.4)	220 (1.3)	19 (2.4)	218 (2.3)
Iowa	33 (3.3)	228 (1.8)	45 (3.6)	229 (1.8)	21 (2.7)	231 (1.7)
Kentucky	31 (3.1)	211 (1.5)	53 (2.7)	215 (1.5)	16 (2.5)	214 (2.7)
Louisiana	38 (3.3)	203 (2.2)	51 (3.3)	205 (2.0)	11 (2.0)	196 (4.1)
Maine	33 (3.2)	229 (1.7)	57 (3.4)	231 (1.3)	10 (1.6)	232 (2.0)
Maryland	40 (3.3)	217 (2.5)	43 (3.0)	217 (1.6)	17 (2.8)	217 (4.1)
Massachusetts	15 (2.6)	228 (3.8)	57 (3.7)	224 (1.5)	29 (3.7)	227 (2.6)
Michigan	30 (3.0)	220 (2.6)	50 (3.3)	219 (2.1)	21 (2.2)	219 (3.0)
Minnesota	25 (2.8)	225 (2.4)	53 (3.1)	227 (1.4)	22 (2.8)	230 (2.0)
Mississippi	33 (3.3)	200 (2.0)	55 (3.3)	200 (1.4)	11 (2.1)	199 (4.2)
Missouri	33 (3.0)	221 (2.2)	55 (3.1)	221 (1.5)	12 (2.1)	221 (3.1)
Nebraska	30 (2.8)	220 (2.2)	57 (3.2)	226 (1.4)	13 (2.1)	228 (2.9)
New Hampshire	35 (3.3)	228 (2.1)	53 (3.7)	230 (1.6)	12 (2.5)	227 (2.7)!
New Jersey	21 (2.7)	214 (3.9)	55 (3.3)	228 (2.1)	24 (2.9)	231 (2.6)
New Mexico	41 (3.4)	208 (2.5)	45 (3.4)	215 (1.8)	14 (2.5)	213 (3.9)
New York	35 (3.4)	206 (2.6)	48 (3.1)	222 (1.8)	17 (2.1)	225 (2.8)
North Carolina	34 (2.8)	212 (1.8)	51 (3.1)	213 (1.7)	15 (2.3)	211 (3.1)
North Dakota	25 (3.2)	228 (1.8)	54 (3.5)	228 (1.0)	21 (3.2)	228 (1.8)
Ohio	27 (2.9)	213 (2.1)	53 (3.1)	218 (1.6)	20 (3.1)	221 (2.5)
Oklahoma	39 (3.3)	219 (1.7)	53 (3.2)	219 (1.1)	8 (1.7)	220 (3.7)!
Pennsylvania	20 (2.9)	219 (3.7)	58 (3.4)	224 (1.8)	23 (3.1)	226 (2.3)
Rhode Island	31 (3.1)	210 (2.4)	54 (3.5)	216 (2.1)	16 (2.4)	215 (3.5)
South Carolina	37 (2.8)	207 (2.0)	57 (2.9)	213 (1.4)	7 (1.6)	219 (3.1)!
Tennessee	28 (2.6)	205 (2.0)	52 (3.3)	213 (1.7)	20 (2.3)	207 (3.0)
Texas	56 (2.9)	215 (1.6)	36 (2.9)	219 (2.0)	8 (1.6)	216 (4.7)!
Utah	43 (3.1)	222 (1.4)	45 (3.3)	223 (1.6)	12 (2.2)	225 (2.4)
Virginia	42 (2.8)	219 (2.0)	49 (2.5)	220 (1.8)	9 (2.0)	222 (3.7)!
West Virginia	22 (3.0)	211 (2.0)	65 (3.3)	214 (1.4)	13 (2.4)	216 (2.2)
Wisconsin	29 (2.9)	225 (1.9)	44 (3.2)	229 (1.6)	27 (2.9)	223 (2.0)
Wyoming	26 (2.7)	222 (1.6)	57 (2.8)	226 (1.2)	17 (2.2)	224 (1.6)
TERRITORY						
Guam	36 (1.2)	186 (1.7)	53 (1.3)	196 (0.9)	11 (0.6)	187 (2.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.2 | Teachers' Reports on Number of Years' Overall Teaching Experience at the Elementary or Secondary Level (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	10 Years or Less Experience		More than 10 Years But Less than 25 Years Experience		25 Years or More Experience	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	35 (1.8)	263 (1.9)	48 (2.1)	268 (1.4)	17 (1.7)	275 (2.5)
Northeast	20 (3.5)	263 (6.1)!	53 (4.6)	263 (3.2)	27 (4.4)	278 (3.6)
Southeast	41 (3.4)	257 (2.6)	50 (4.0)	264 (2.0)	10 (3.2)	259 (7.5)!
Central	28 (3.2)	272 (5.3)	47 (5.8)	273 (4.3)	25 (4.7)	280 (4.0)
West	45 (4.1)	263 (3.3)	45 (2.8)	270 (2.5)	11 (2.0)	269 (7.5)!
STATES						
Alabama	37 (3.4)	255 (1.7)	53 (4.3)	249 (2.8)	11 (2.5)	248 (4.4)!
Arizona	37 (4.2)	262 (2.6)	47 (4.2)	267 (1.9) >	16 (2.8)	264 (2.3)
Arkansas	37 (4.0)	253 (2.1)	54 (4.1)	257 (2.0)	9 (2.2)	258 (4.6)!
California	42 (3.5)	256 (2.4)	37 (3.2)	265 (2.7)	21 (2.3)	265 (3.9) >
Colorado	41 (3.2)	270 (1.9)	47 (3.2)	273 (1.5)	12 (2.2)	271 (3.3)
Connecticut	17 (2.6)	260 (4.0)	56 (3.4)	276 (2.0)	27 (3.3)	276 (3.6)
Delaware	45 (0.7) »	261 (1.3) >	49 (0.9) «	261 (1.5)	6 (0.7) «	273 (4.4)
Dist. Columbia	24 (1.1)	235 (2.2)	52 (1.1) «	235 (1.2) »	24 (0.8) »	233 (1.7)
Florida	39 (3.4)	257 (2.1)	51 (3.5)	261 (2.3)	10 (1.8)	260 (3.8)
Georgia	42 (2.9)	257 (2.2)	46 (3.1)	262 (1.8)	12 (2.3)	249 (3.3)
Hawaii	51 (1.0) »	257 (1.1) »	33 (1.0) «	255 (1.7)	16 (0.5)	261 (2.1)
Idaho	40 (3.1)	273 (1.2)	49 (3.6)	274 (1.2)	11 (2.3)	282 (3.5)! >
Indiana	32 (4.2)	265 (1.7)	53 (3.9)	271 (1.6)	15 (2.6)	269 (2.6)
Iowa	26 (3.7)	283 (2.1) >	52 (4.4)	282 (1.4)	23 (3.8)	284 (1.7) »
Kentucky	44 (3.9)	260 (1.6)	45 (3.7)	263 (1.9) >	11 (2.9)	264 (4.0)!
Louisiana	38 (3.3)	249 (2.7)	46 (3.5)	250 (2.3)	16 (3.0)	248 (3.4)
Maine	26 (3.2)	278 (2.0)	57 (3.8)	279 (1.3)	17 (3.1)	276 (3.6)
Maryland	27 (3.2)	265 (4.1) >	57 (3.7)	264 (2.1)	15 (2.6)	268 (5.4)
Massachusetts	11 (2.3)	262 (3.8)	68 (4.1)	271 (1.5)	21 (3.7)	280 (2.3)
Michigan	28 (3.0)	269 (3.3)	52 (3.2)	262 (1.9)	20 (2.6)	276 (3.3) >
Minnesota	33 (4.4)	283 (1.7) »	33 (3.8)	282 (1.5)	34 (3.5)	281 (2.0)
Mississippi	28 (3.6)	244 (3.0)	58 (3.8)	246 (1.8)	14 (3.1)	244 (3.6)!
Missouri	42 (3.6)	271 (1.4)	46 (3.3)	271 (1.7)	12 (2.7)	269 (3.4)!
Nebraska	37 (3.9)	275 (1.9)	45 (4.5)	278 (1.8)	18 (3.5) >	281 (2.6)!
New Hampshire	30 (3.0) <	273 (1.4) »	62 (3.0)	279 (1.2)	8 (1.9)	278 (4.0)!
New Jersey	27 (3.5)	266 (3.7)	60 (3.9)	271 (1.9)	13 (2.3)	281 (3.8)
New Mexico	47 (4.0)	257 (1.3)	48 (3.9)	262 (1.6)	5 (1.2) <	259 (3.0)!
New York	25 (2.9)	254 (4.5)	56 (3.4)	267 (2.4)	20 (2.8)	276 (4.3)
North Carolina	41 (2.9)	257 (1.9) >	49 (3.1)	259 (1.8) >	10 (2.1)	255 (3.3)!
North Dakota	30 (3.6)	284 (2.0)	39 (4.0) <	282 (1.6)	31 (3.4) >	282 (1.4)
Ohio	29 (4.1)	267 (2.5)	58 (4.8)	269 (2.0)	13 (2.5)	267 (4.2)
Oklahoma	41 (3.7)	266 (2.0)	52 (3.5)	269 (1.5)	7 (1.9)	263 (5.9)!
Pennsylvania	28 (3.2)	270 (2.8) >	50 (3.8)	271 (2.4)	22 (2.7)	270 (2.8)
Rhode Island	30 (1.1) »	262 (1.4) »	61 (1.1)	265 (0.9)	9 (0.5) «	271 (2.3) >
South Carolina	39 (3.0)	258 (2.1)	53 (2.7)	262 (1.7)	8 (1.6)	259 (3.2)
Tennessee	28 (2.6)	255 (2.5)	59 (3.3)	260 (1.9)	13 (2.4)	254 (3.8)
Texas	47 (3.9)	263 (1.8) >	42 (3.5)	266 (2.3)	12 (2.1)	263 (3.1) >
Utah	51 (2.2)	272 (1.2)	32 (2.5)	276 (1.5)	17 (1.8)	276 (1.8)
Virginia	39 (3.4)	260 (1.6)	52 (3.3)	271 (1.8)	9 (1.9)	270 (4.3)!
West Virginia	42 (3.9)	256 (1.8)	50 (3.8)	260 (1.4)	8 (2.1)	260 (4.7)!
Wisconsin	35 (5.7)	277 (3.9)!	40 (4.2)	281 (1.3)	25 (4.4)	276 (2.5)
Wyoming	40 (3.3)	274 (1.4)	47 (2.8) <	275 (1.2)	13 (2.2)	272 (3.5)
TERRITORIES						
Guam	37 (1.2) «	222 (1.7)	53 (1.0) »	244 (1.6) >	10 (0.5) «	228 (3.3)
Virgin Islands	65 (0.9) «	217 (1.3)	26 (0.9) »	222 (1.8) «	10 (0.5) »	245 (2.5)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 11.2 | Teachers' Reports on Number of Years' Overall Teaching Experience at the Elementary or Secondary Level (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	10 Years or Less Experience		More than 10 Years But Less than 25 Years Experience		25 Years or More Experience	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	30 (3.5)	261 (2.9)	51 (3.6)	265 (1.7)	19 (3.7)	264 (4.5)!
Northeast	24 (8.7)	259 (4.8)!	42(10.9)	277 (2.7)!	35(15.2)	278 (6.3)!
Southeast	22 (6.3)	256 (4.8)!	63 (6.4)	259 (3.5)	14 (6.8)	248 (9.8)!
Central	20 (5.9)	259 (8.3)!	53 (7.0)	269 (3.0)	27 (7.1)	259 (4.2)!
West	46 (7.0)	264 (4.7)	46 (6.5)	261 (3.0)	9 (3.0)	268 (9.3)!
STATES						
Alabama	41 (3.7)	255 (2.2)	53 (4.0)	254 (1.6)	7 (1.8)	239 (4.5)!
Arizona	38 (2.8)	258 (2.6)	52 (3.2)	261 (1.6)	10 (2.3)	261 (3.0)!
Arkansas	42 (4.0)	254 (1.5)	52 (4.2)	258 (1.4)	6 (2.1)	261 (5.6)!
California	36 (3.4)	253 (2.5)	43 (3.0)	262 (2.3)	21 (3.2)	253 (2.7)
Colorado	43 (3.8)	264 (1.6)	46 (3.5)	269 (1.7)	11 (2.0)	272 (2.7)
Connecticut	17 (2.8)	271 (2.7)	58 (3.6)	271 (1.5)	25 (3.2)	267 (2.1)
Delaware	29 (0.9)	256 (1.5)	59 (1.1)	264 (1.2)	12 (0.8)	267 (2.3)
Dist. Columbia	22 (0.8)	239 (2.1)	57 (0.9)	229 (0.9)	20 (0.8)	233 (2.0)
Florida	39 (2.6)	254 (2.0)	53 (2.4)	258 (1.9)	8 (1.7)	255 (3.8)!
Georgia	37 (3.5)	255 (2.3)	53 (3.7)	262 (2.0)	10 (2.2)	248 (3.4)!
Hawaii	40 (0.9)	248 (1.2)	44 (1.0)	253 (1.2)	16 (0.6)	258 (2.4)
Idaho	43 (1.8)	270 (1.3)	47 (1.9)	273 (1.3)	10 (0.8)	271 (1.6)
Indiana	30 (3.6)	267 (2.2)	59 (3.3)	267 (1.5)	11 (2.3)	271 (3.5)!
Iowa	19 (3.7)	274 (2.5)!	58 (4.8)	280 (1.8)	23 (4.0)	274 (2.1)
Kentucky	37 (3.9)	259 (1.4)	53 (4.2)	255 (1.8)	10 (2.9)	261 (3.3)!
Louisiana	34 (4.2)	246 (2.5)	49 (4.7)	247 (1.6)	16 (3.2)	243 (4.4)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	21 (2.5)	251 (2.7)	65 (2.9)	264 (1.7)	14 (2.3)	263 (4.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	19 (2.9)	264 (2.6)	62 (4.0)	265 (1.6)	20 (3.1)	262 (3.3)
Minnesota	27 (3.2)	272 (1.8)	45 (3.6)	277 (1.8)	28 (3.4)	277 (1.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	37 (2.8)	273 (1.8)	56 (2.8)	277 (1.2)	7 (1.3)	280 (3.2)
New Hampshire	40 (1.4)	267 (1.3)	55 (1.3)	277 (1.2)	5 (1.0)	274 (4.5)
New Jersey	21 (2.5)	264 (3.7)	63 (3.4)	270 (1.5)	17 (2.5)	274 (3.7)
New Mexico	42 (1.3)	254 (1.2)	49 (1.4)	258 (1.1)	8 (0.6)	260 (2.7)
New York	28 (2.8)	247 (2.7)	54 (3.5)	263 (1.8)	18 (3.1)	269 (3.0)
North Carolina	43 (3.1)	251 (1.5)	48 (3.3)	251 (1.7)	9 (2.1)	248 (5.2)!
North Dakota	28 (2.4)	277 (2.5)	52 (2.8)	283 (1.7)	20 (1.3)	284 (1.9)
Ohio	26 (3.4)	262 (2.7)	57 (3.9)	266 (1.6)	17 (2.7)	261 (2.5)
Oklahoma	42 (3.6)	262 (2.1)	46 (3.5)	265 (1.8)	12 (3.1)	265 (3.0)!
Pennsylvania	23 (3.0)	258 (2.7)	54 (3.7)	269 (2.1)	23 (3.6)	271 (3.0)
Rhode Island	23 (0.8)	254 (1.3)	64 (0.7)	262 (0.8)	13 (0.6)	262 (2.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	46 (3.2)	256 (2.0)	41 (3.4)	259 (1.9)	13 (3.0)	247 (5.4)!
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	30 (2.6)	260 (2.3)	61 (2.7)	266 (2.0)	9 (1.7)	263 (4.8)
West Virginia	46 (3.9)	253 (1.5)	47 (3.9)	257 (1.5)	7 (2.1)	269 (4.8)!
Wisconsin	25 (3.4)	270 (2.5)	52 (3.7)	278 (1.8)	23 (2.9)	276 (2.4)
Wyoming	33 (1.2)	272 (1.1)	56 (1.1)	273 (0.9)	11 (0.3)	272 (1.4)
TERRITORIES						
Guam	43 (0.9)	225 (1.2)	40 (0.9)	238 (1.3)	17 (0.8)	234 (2.0)
Virgin Islands	77 (0.7)	217 (1.2)	20 (0.5)	232 (1.8)	4 (0.5)	*** (***)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 11.3 | Teachers' Reports on the Number of Years They Have Taught Mathematics

	Grade 8 - 1992					
	10 Years or Less Teaching Mathematics		More than 10 Years But Less than 25 Years Teaching Mathematics		25 Years or More Experience	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	43 (2.1)	263 (1.6)	44 (2.4)	269 (1.6)	13 (1.8)	275 (3.3)
Northeast	27 (3.6)	263 (4.3)	53 (5.1)	266 (3.7)	21 (6.1)	278 (6.1)!
Southeast	53 (5.1)	258 (2.0)	39 (5.0)	263 (2.4)	8 (2.3)	264 (8.2)!
Central	37 (3.3)	270 (3.9)	42 (5.7)	276 (4.6)	22 (5.0)	281 (4.8)!
West	51 (3.9)	264 (2.9)	43 (3.6)	271 (2.7)	6 (1.4)	261 (4.3)!
STATES						
Alabama	43 (3.6)	253 (1.7)	48 (4.1)	251 (2.9)	8 (2.3)	246 (4.6)!
Arizona	52 (3.8)	262 (1.8)	39 (3.5)	269 (2.0)	9 (2.2)	260 (3.1)!
Arkansas	41 (4.3)	252 (2.1)	51 (4.4)	257 (2.0)	7 (2.1)	260 (4.4)!
California	55 (3.3)	255 (2.1)	35 (3.3)	268 (2.9)	11 (1.7)	266 (3.5)
Colorado	48 (3.3)	269 (1.7) >	43 (3.0)	274 (1.6)	10 (2.0)	276 (3.3)!
Connecticut	27 (2.9)	267 (2.9)	52 (3.1)	275 (1.9)	21 (2.9)	278 (4.7)
Delaware	59 (0.8) »	261 (1.1)	35 (0.9) «	262 (1.7)	6 (0.7)	273 (4.4)
Dist. Columbia	26 (1.1) <	235 (2.4)	53 (1.1)	234 (1.4) »	21 (0.7) »	235 (1.9)
Florida	53 (3.3)	257 (1.8)	40 (3.3)	262 (2.0)	6 (1.6)	256 (5.1)!
Georgia	53 (3.5)	258 (1.9)	38 (3.6)	261 (2.0)	9 (1.8)	250 (3.9)!
Hawaii	57 (0.9) »	254 (1.1) »	29 (0.9) «	259 (1.7)	13 (0.5)	265 (2.1)
Idaho	53 (3.0)	273 (1.2) >	39 (3.0)	273 (1.3)	8 (1.7)	287 (2.4)! »
Indiana	35 (4.2)	265 (1.8)	54 (4.1)	273 (1.6)	11 (2.1)	267 (3.1)
Iowa	32 (3.8)	281 (2.0) >	47 (4.2)	283 (1.4)	21 (3.9)	285 (1.8)! »
Kentucky	49 (4.1)	260 (1.8)	43 (3.6)	264 (1.7) >	8 (2.5)	269 (4.6)!
Louisiana	44 (3.4)	247 (2.7)	45 (3.4)	250 (2.2)	12 (2.6)	253 (3.1)!
Maine	37 (4.3)	276 (1.6)	49 (4.6)	280 (1.6)	14 (3.3)	276 (3.1)!
Maryland	35 (3.5)	263 (3.1) >	51 (3.6)	265 (2.2)	14 (2.7)	270 (5.9)!
Massachusetts	21 (2.8)	260 (2.5)	61 (3.7)	273 (1.7)	18 (3.5)	282 (2.4)
Michigan	41 (3.5)	264 (2.8)	45 (3.7)	266 (2.6)	14 (2.0)	279 (4.6)
Minnesota	35 (4.3)	283 (1.6) »	34 (3.9)	282 (1.6)	31 (3.1)	282 (2.1)
Mississippi	36 (3.8)	245 (2.5)	54 (3.8)	246 (1.9)	10 (2.6)	245 (4.9)!
Missouri	46 (3.7)	269 (1.5)	44 (3.4)	273 (1.6)	9 (2.4)	271 (4.1)!
Nebraska	42 (3.8)	275 (1.7)	41 (4.4)	278 (1.9)	18 (3.5) >	281 (2.8)!
New Hampshire	37 (3.3) <	274 (1.2) >	58 (3.5)	280 (1.3)	5 (1.8)	277 (5.7)!
New Jersey	38 (4.1)	266 (3.4)	53 (4.1)	273 (2.0)	9 (2.0)	284 (3.2)!
New Mexico	56 (3.6)	257 (1.1) >	42 (3.5)	263 (1.7)	2 (0.6) «	*** (***)
New York	30 (3.4)	251 (4.2)	52 (4.0)	269 (2.5)	16 (2.6)	281 (3.4) >
North Carolina	48 (3.1)	257 (1.7) >	44 (3.1)	259 (1.9) >	8 (2.0)	257 (3.5)!
North Dakota	36 (3.5)	283 (1.7)	39 (3.9) <	283 (1.6)	24 (3.3) >	281 (1.7)
Ohio	43 (4.2)	268 (2.1) >	47 (4.7)	269 (2.4)	10 (2.3)	266 (5.1)!
Oklahoma	50 (4.1)	266 (1.9)	44 (4.0)	269 (1.5)	6 (1.8)	262 (6.0)!
Pennsylvania	31 (3.0)	268 (2.7) »	49 (3.7)	272 (2.2)	20 (2.8)	272 (3.1)
Rhode Island	35 (1.1) »	260 (1.4) >	55 (1.1) <	267 (1.0) >	10 (0.5) «	271 (2.2) >
South Carolina	46 (3.2)	257 (1.8)	49 (3.0)	263 (1.8)	5 (1.2)	260 (4.4)!
Tennessee	42 (3.4)	257 (2.0)	48 (3.7)	259 (2.3)	10 (1.9)	260 (3.4)
Texas	50 (3.8)	262 (1.7) >	41 (3.3)	267 (2.3) >	10 (1.9)	263 (3.7)
Utah	61 (2.5)	271 (1.1)	28 (2.6)	276 (1.7)	11 (1.3)	280 (2.2)
Virginia	48 (3.4)	262 (1.5)	46 (3.1)	271 (2.0)	6 (1.4)	270 (5.1)!
West Virginia	47 (4.0)	256 (1.7)	46 (3.9)	260 (1.5)	7 (2.0)	261 (4.3)!
Wisconsin	40 (5.4)	276 (3.5)	41 (4.1)	280 (1.8)	18 (3.6)	279 (2.2)
Wyoming	44 (3.1)	274 (1.3)	46 (3.1)	274 (1.5)	11 (1.5)	277 (2.2)
TERRITORIES						
Guam	42 (1.3) «	227 (1.6)	48 (1.1) »	243 (1.6)	10 (0.5) »	228 (3.3)
Virgin Islands	65 (0.9) «	217 (1.3)	34 (0.9) »	228 (1.7)	1 (0.2) «	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.3 | Teachers' Reports on the Number of Years They Have Taught Mathematics (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	10 Years or Less Teaching Mathematics		More than 10 Years But Less than 25 Years Teaching Mathematics		25 Years or More Experience	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	40 (3.5)	262 (2.4)	46 (4.0)	264 (1.9)	14 (3.5)	265 (6.3)!
Northeast	31 (8.2)	266 (4.0)!	42 (6.3)	273 (2.7)	27(13.5)	282 (7.2)!
Southeast	36 (8.8)	264 (5.6)!	56 (8.7)	255 (4.6)	7 (4.7)	*** (***)
Central	35 (4.9)	256 (4.5)	44(10.0)	275 (3.2)!	20 (8.9)	256 (6.2)!
West	51 (6.5)	264 (4.2)	42 (6.3)	260 (3.4)	6 (2.5)	*** (***)
STATES						
Alabama	43 (3.7)	254 (2.1)	51 (4.0)	253 (1.8)	6 (2.0)	244 (4.6)!
Arizona	55 (2.8)	258 (2.0)	37 (2.9)	262 (2.0)	8 (2.0)	264 (3.8)!
Arkansas	53 (4.3)	255 (1.4)	44 (4.3)	259 (1.6)	2 (0.9)	*** (***)
California	50 (2.8)	253 (1.9)	39 (2.8)	262 (2.3)	11 (2.2)	258 (4.0)!
Colorado	50 (3.6)	263 (1.4)	41 (3.1)	270 (1.7)	9 (1.7)	274 (2.7)
Connecticut	30 (3.6)	270 (2.1)	52 (3.7)	270 (1.8)	18 (2.4)	271 (2.6)
Delaware	43 (0.8)	258 (1.4)	49 (0.8)	265 (1.2)	8 (0.7)	265 (2.9)
Dist. Columbia	30 (1.0)	237 (1.8)	55 (1.0)	227 (1.0)	15 (0.7)	241 (2.3)
Florida	49 (2.9)	254 (1.7)	45 (2.6)	259 (2.2)	6 (1.5)	258 (3.9)!
Georgia	45 (3.0)	255 (1.9)	48 (3.3)	262 (2.2)	8 (1.9)	249 (4.4)!
Hawaii	49 (0.8)	246 (1.2)	38 (0.9)	255 (1.2)	13 (0.6)	262 (2.7)
Idaho	55 (1.9)	269 (1.0)	37 (1.8)	275 (1.5)	8 (0.7)	271 (2.0)
Indiana	33 (3.8)	266 (2.3)	58 (3.6)	268 (1.5)	9 (2.2)	272 (4.1)!
Iowa	27 (4.5)	272 (2.5)	55 (3.9)	282 (1.4)	18 (3.4)	273 (2.5)
Kentucky	46 (4.3)	258 (1.5)	47 (4.7)	257 (1.9)	7 (2.4)	257 (2.5)!
Louisiana	46 (4.4)	246 (1.9)	39 (4.2)	247 (2.0)	15 (3.1)	244 (4.7)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	29 (2.4)	252 (2.7)	60 (2.5)	265 (1.7)	12 (2.0)	261 (5.0)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	36 (3.3)	263 (2.1)	49 (4.0)	265 (2.1)	15 (3.1)	263 (5.3)!
Minnesota	29 (3.4)	272 (1.6)	45 (3.6)	276 (1.8)	26 (3.3)	278 (1.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	41 (2.7)	271 (1.7)	52 (2.6)	278 (1.3)	7 (1.3)	281 (3.1)
New Hampshire	49 (1.5)	269 (1.6)	50 (1.5)	277 (1.2)	1 (0.5)	*** (***)
New Jersey	31 (2.5)	265 (2.8)	56 (2.8)	271 (1.7)	14 (2.1)	275 (4.5)
New Mexico	54 (1.4)	253 (1.0)	40 (1.3)	261 (1.3)	6 (0.5)	259 (3.4)
New York	35 (3.0)	248 (2.6)	48 (3.5)	265 (1.8)	18 (3.0)	270 (3.0)
North Carolina	51 (2.7)	251 (1.4)	43 (2.9)	250 (1.8)	6 (1.6)	251 (6.2)!
North Dakota	33 (2.5)	277 (2.3)	53 (2.8)	282 (1.6)	15 (1.1)	288 (2.4)
Ohio	36 (3.8)	259 (2.3)	52 (3.9)	268 (1.8)	12 (2.3)	263 (2.3)
Oklahoma	50 (3.4)	262 (1.9)	39 (3.4)	266 (2.0)	11 (3.0)	265 (3.4)!
Pennsylvania	29 (3.[illegible])	255 (2.3)	54 (3.6)	270 (2.2)	17 (2.7)	275 (2.3)
Rhode Island	29 (0.7)	255 (1.2)	58 (0.7)	263 (0.9)	13 (0.6)	262 (2.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	55 (3.1)	256 (1.9)	37 (3.2)	258 (2.0)	8 (2.5)	247 (7.9)!
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	40 (2.8)	260 (2.1)	51 (2.6)	266 (2.2)	9 (1.8)	267 (4.7)
West Virginia	53 (4.1)	254 (1.3)	44 (3.9)	258 (1.5)	3 (1.6)	*** (***)
Wisconsin	27 (3.5)	270 (2.4)	54 (4.0)	277 (1.8)	19 (2.9)	278 (2.8)
Wyoming	40 (1.6)	272 (1.1)	52 (1.5)	273 (0.9)	8 (0.3)	272 (1.6)
TERRITORIES						
Guam	53 (0.9)	227 (1.2)	39 (0.8)	239 (1.1)	7 (0.4)	232 (3.6)
Virgin Islands	77 (0.7)	217 (1.2)	20 (0.5)	232 (1.8)	4 (0.5)	*** (***)

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Gender and Race/Ethnicity

TABLE 11.4 Teachers' Reports on Their Gender and Race/Ethnicity, Grades 4 and 8

		Teachers' Gender		Teachers' Race/Ethnicity		
		Male	Female	White	Black	Hispanic
	Assessment Years	Percent of Students	Percent of Students	Percent of Students	Percent of Students	Percent of Students
Grade 4						
Nation	**1992**	13 (1.3)	87 (1.3)	90 (1.2)	8 (1.0)	2 (0.9)
	1990	18 (2.6)	82 (2.6)	84 (2.7)	13 (2.5)	2 (0.8)
White	**1992**	12 (1.4)	88 (1.4)	95 (0.8)	4 (0.7)	1 (0.3)
	1990	18 (3.2)	82 (3.2)	93 (2.9)	6 (2.8)	1 (0.5)
Black	**1992**	13 (2.8)	87 (2.8)	72 (3.6)>	26 (3.7)<	0 (0.3)
	1990	16 (4.3)	84 (4.3)	48 (6.1)	50 (6.3)	2 (1.0)
Hispanic	**1992**	13 (1.5)	87 (1.5)	76 (6.9)	9 (2.3)	13 (7.6)
	1990	17 (2.7)	83 (2.7)	78 (4.3)	13 (3.3)	8 (3.3)
Male	**1992**	13 (1.5)	87 (1.5)	89 (1.4)	8 (1.2)	2 (0.9)
	1990	18 (2.7)	82 (2.7)	85 (2.7)	12 (2.4)	2 (1.0)
Female	**1992**	12 (1.3)	88 (1.3)	90 (1.2)	7 (0.9)	2 (0.9)
	1990	18 (2.6)	82 (2.6)	84 (2.9)	13 (2.7)	2 (0.6)
Grade 8						
Nation	**1992**	40 (3.0)	60 (3.0)	89 (1.4)	7 (0.9)	3 (1.0)
	1990	44 (4.0)	56 (4.0)	90 (2.0)	6 (1.8)	2 (0.7)
White	**1992**	41 (3.5)	59 (3.5)	95 (1.1)	2 (0.5)	1 (0.3)
	1990	44 (4.4)	56 (4.4)	95 (1.4)	3 (1.2)	1 (0.5)
Black	**1992**	36 (5.4)	64 (5.4)	73 (4.0)	25 (4.0)	1 (0.5)
	1990	36 (6.0)	64 (6.0)	70 (7.2)	27 (7.0)	2 (1.3)
Hispanic	**1992**	42 (4.2)	58 (4.2)	68 (7.1)	10 (2.5)	20 (8.3)
	1990	43 (6.0)	57 (6.0)	78 (5.0)	6 (2.9)	12 (4.1)
Male	**1992**	41 (2.8)	59 (2.8)	89 (1.5)	7 (1.2)	3 (1.0)
	1990	46 (4.4)	54 (4.4)	90 (2.1)	6 (1.9)	2 (0.7)
Female	**1992**	39 (3.4)	61 (3.4)	89 (1.4)	6 (0.8)	3 (1.1)
	1990	41 (3.9)	59 (3.9)	90 (2.0)	7 (1.8)	2 (0.8)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level.
< The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level.
The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 11.5 | Teachers' Reports on Their Gender and Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992						
	Teachers' Gender		Teachers' Race/Ethnicity				
	Male	Female	White	Black	Hispanic	Asian / Pacific Islander	American Indian
	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students
NATION	14 (1.6)	86 (1.6)	89 (1.4)	8 (1.2)	2 (1.0)	0 (0.1)	1 (0.4)
Northeast	23 (4.3)	77 (4.3)	89 (3.0)	11 (3.0)	0 (0.1)	0 (0.0)	0 (0.0)
Southeast	6 (2.7)	94 (2.7)	81 (3.3)	18 (3.4)	1 (0.1)	0 (0.0)	0 (0.0)
Central	14 (2.4)	86 (2.4)	97 (1.1)	2 (0.8)	0 (0.0)	0 (0.0)	1 (0.8)
West	14 (2.6)	86 (2.6)	88 (3.1)	4 (1.0)	7 (3.3)	1 (0.4)	2 (1.3)
STATES							
Alabama	5 (1.4)	95 (1.4)	74 (2.6)	26 (2.6)	0 (0.0)	0 (0.0)	0 (0.0)
Arizona	18 (1.9)	82 (1.9)	88 (1.9)	3 (1.1)	6 (1.2)	1 (0.6)	2 (1.0)
Arkansas	5 (1.6)	95 (1.6)	87 (1.8)	13 (1.8)	0 (0.0)	0 (0.1)	0 (0.0)
California	19 (2.5)	81 (2.5)	80 (2.5)	6 (1.4)	8 (1.7)	6 (1.4)	0 (0.1)
Colorado	16 (2.2)	84 (2.2)	91 (1.4)	3 (0.9)	6 (1.1)	0 (0.3)	0 (0.0)
Connecticut	15 (1.9)	85 (1.9)	93 (1.4)	6 (1.4)	1 (0.5)	0 (0.1)	0 (0.0)
Delaware	14 (0.9)	86 (0.9)	87 (0.7)	13 (0.6)	0 (0.4)	0 (0.0)	0 (0.1)
Dist. Columbia	14 (0.5)	86 (0.5)	10 (0.8)	88 (0.9)	1 (0.2)	1 (0.0)	0 (0.1)
Florida	10 (1.7)	90 (1.7)	78 (2.1)	17 (1.7)	5 (1.2)	0 (0.0)	0 (0.3)
Georgia	7 (2.2)	93 (2.2)	76 (2.5)	24 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)
Hawaii	9 (1.7)	91 (1.7)	21 (2.9)	0 (0.0)	1 (0.4)	79 (2.9)	0 (0.0)
Idaho	16 (2.2)	85 (2.2)	99 (0.4)	0 (0.1)	0 (0.2)	0 (0.0)	0 (0.3)
Indiana	17 (2.2)	83 (2.2)	96 (1.0)	4 (0.9)	0 (0.4)	0 (0.0)	0 (0.0)
Iowa	14 (2.0)	86 (2.0)	99 (0.6)	0 (0.2)	0 (0.3)	0 (0.4)	0 (0.0)
Kentucky	9 (2.1)	91 (2.1)	96 (1.5)	3 (1.3)	0 (0.1)	0 (0.0)	1 (0.8)
Louisiana	4 (1.0)	96 (1.0)	68 (3.4)	31 (3.5)	1 (1.1)	0 (0.4)	0 (0.0)
Maine	12 (1.8)	88 (1.8)	100 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.4)
Maryland	13 (2.0)	87 (2.0)	81 (2.2)	18 (2.2)	1 (0.6)	0 (0.0)	0 (0.0)
Massachusetts	18 (2.5)	82 (2.5)	96 (1.4)	3 (1.0)	1 (0.5)	1 (0.7)	0 (0.1)
Michigan	20 (3.0)	80 (3.0)	93 (1.7)	6 (1.6)	0 (0.0)	1 (0.7)	0 (0.0)
Minnesota	27 (2.7)	73 (2.7)	99 (0.7)	1 (0.5)	0 (0.3)	0 (0.0)	0 (0.0)
Mississippi	7 (2.3)	93 (2.3)	64 (2.8)	36 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)
Missouri	8 (1.6)	92 (1.6)	92 (1.8)	8 (1.7)	0 (0.4)	0 (0.0)	0 (0.0)
Nebraska	8 (1.7)	92 (1.7)	96 (1.3)	3 (1.1)	1 (0.7)	0 (0.0)	0 (0.0)
New Hampshire	13 (2.6)	87 (2.6)	100 (0.2)	0 (0.0)	0 (0.0)	0 (0.2)	0 (0.0)
New Jersey	14 (2.9)	86 (2.9)	87 (1.6)	12 (1.6)	1 (0.6)	0 (0.0)	0 (0.0)
New Mexico	15 (2.9)	85 (2.9)	74 (3.8)	1 (0.7)	25 (3.6)	0 (0.4)	0 (0.2)
New York	17 (2.2)	83 (2.2)	91 (1.7)	5 (1.5)	4 (0.9)	0 (0.0)	0 (0.0)
North Carolina	4 (1.0)	96 (1.0)	85 (1.9)	14 (1.9)	0 (0.0)	0 (0.0)	0 (0.3)
North Dakota	11 (2.6)	89 (2.6)	97 (2.1)	2 (2.0)	0 (0.0)	0 (0.0)	1 (0.7)
Ohio	14 (1.8)	86 (1.8)	97 (1.0)	3 (1.0)	0 (0.3)	0 (0.1)	0 (0.0)
Oklahoma	6 (1.4)	94 (1.4)	92 (1.5)	3 (1.0)	1 (0.4)	0 (0.0)	3 (1.2)
Pennsylvania	26 (2.3)	74 (2.3)	91 (1.5)	8 (1.6)	1 (0.6)	0 (0.0)	0 (0.1)
Rhode Island	8 (1.6)	92 (1.6)	99 (0.6)	1 (0.4)	0 (0.3)	0 (0.0)	0 (0.0)
South Carolina	4 (1.0)	96 (1.0)	83 (2.3)	17 (2.2)	0 (0.0)	0 (0.0)	0 (0.2)
Tennessee	7 (1.7)	93 (1.7)	81 (2.3)	19 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)
Texas	10 (1.7)	90 (1.7)	79 (3.0)	9 (2.1)	11 (2.5)	0 (0.2)	0 (0.1)
Utah	20 (2.6)	80 (2.6)	97 (1.0)	1 (0.6)	0 (0.5)	2 (0.7)	0 (0.0)
Virginia	4 (1.2)	96 (1.2)	83 (2.6)	16 (2.5)	1 (0.5)	0 (0.0)	0 (0.2)
West Virginia	10 (2.0)	90 (2.0)	99 (0.6)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)
Wisconsin	19 (2.7)	81 (2.7)	95 (1.2)	3 (0.7)	1 (0.7)	1 (0.5)	1 (0.6)
Wyoming	21 (2.2)	79 (2.2)	98 (0.9)	0 (0.0)	1 (0.7)	0 (0.5)	0 (0.2)
TERRITORY							
Guam	13 (0.9)	87 (0.9)	26 (0.8)	0 (0.0)	0 (0.0)	74 (0.8)	0 (0.0)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 11.5 | Teachers' Reports on Their Gender and Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992						
	Teachers' Gender		Teachers' Race/Ethnicity				
	Male	Female	White	Black	Hispanic	Asian / Pacific Islander	American Indian
	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students
NATION	42 (3.4)	58 (3.4)	89 (1.6)	7 (1.0)	3 (1.1)	1 (0.5)	0 (0.0)
Northeast	38 (7.5)	62 (7.5)	83 (4.8)	12 (3.1)	0 (0.1)	5 (2.4)	0 (0.0)
Southeast	31 (5.6)	69 (5.6)	90 (1.9)	10 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)
Central	51 (5.1)	49 (5.1)	95 (1.0)	3 (1.7)	2 (1.2)	0 (0.0)	0 (0.0)
West	46 (7.9)	54 (7.9)	87 (3.5)	4 (1.4)	8 (3.7)	1 (0.3)	0 (0.0)
STATES							
Alabama	24 (4.1)	76 (4.1)	82 (3.8)	18 (3.8)	0 (0.0)	0 (0.4)	0 (0.0)
Arizona	52 (3.7)	48 (3.7)	89 (2.5)	2 (0.9)	4 (1.8)	1 (0.7)	4 (1.7)
Arkansas	35 (3.7)	65 (3.7)	90 (1.8)	8 (1.6)	0 (0.4)	1 (0.7)	0 (0.0)
California	55 (3.3)	45 (3.3)	81 (2.3)	6 (1.0)	5 (1.2)	8 (1.8)	1 (0.6)
Colorado	39 (2.7)	61 (2.7)	95 (1.3)	1 (0.6)	3 (1.1)	0 (0.2)	0 (0.1)
Connecticut	45 (3.5)	55 (3.5)	94 (2.0)	3 (1.3)	1 (0.6)	2 (1.6)	0 (0.0)
Delaware	34 (0.9)«	66 (0.9)»	86 (0.9)«	11 (0.7)»	0 (0.2)	0 (0.0)	2 (0.4)
Dist. Columbia	35 (1.2)	65 (1.2)	6 (0.6)	91 (0.6)»	2 (0.1)«	1 (0.3)«	0 (0.0)
Florida	34 (3.2)	66 (3.2)	78 (2.8)	15 (2.3)	8 (1.7)	0 (0.0)	0 (0.0)
Georgia	18 (2.3)	82 (2.3)	74 (3.0)	25 (3.0)	1 (0.4)	0 (0.0)	0 (0.0)
Hawaii	39 (0.9)	61 (0.9)	36 (0.8)»	2 (0.3)	1 (0.0)«	61 (0.8)«	0 (0.0)
Idaho	53 (3.0)	47 (3.0)	97 (0.8)	0 (0.0)	0 (0.4)	2 (0.9)	0 (0.4)
Indiana	44 (4.0)	56 (4.0)	98 (1.0)	2 (0.9)	0 (0.3)	0 (0.0)	0 (0.0)
Iowa	62 (4.3)	38 (4.3)	100 (0.1)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)
Kentucky	30 (2.7)	70 (2.7)	99 (0.5)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)
Louisiana	31 (3.8)	69 (3.8)	70 (3.6)	29 (3.6)	1 (0.7)	0 (0.2)	0 (0.2)
Maine	57 (3.3)	43 (3.3)	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Maryland	31 (3.3)	69 (3.3)	84 (2.7)	15 (2.5)	1 (0.8)	0 (0.1)	0 (0.0)
Massachusetts	47 (3.8)	53 (3.8)	97 (1.1)	1 (0.7)	1 (0.3)	1 (0.8)	0 (0.0)
Michigan	53 (3.5)	47 (3.5)	87 (1.8)	13 (1.8)	0 (0.0)	0 (0.0)	0 (0.1)
Minnesota	75 (2.8)	25 (2.8)	99 (0.8)	0 (0.0)	0 (0.0)	0 (0.4)	1 (0.7)
Mississippi	28 (2.9)	72 (2.9)	68 (3.4)	31 (3.4)	0 (0.0)	1 (0.6)	0 (0.0)
Missouri	34 (3.2)	66 (3.2)	96 (1.7)	3 (1.5)	0 (0.3)	0 (0.1)	0 (0.3)
Nebraska	47 (4.0)	53 (4.0)	99 (0.2)	0 (0.0)	1 (0.2)	0 (0.1) >	0 (0.0)
New Hampshire	37 (3.0) >	63 (3.0) <	98 (0.3) <	0 (0.0)	0 (0.2)	1 (0.3)	0 (0.0)
New Jersey	33 (4.0)	67 (4.0)	87 (2.0)	10 (2.2)	2 (1.0)	0 (0.3)	0 (0.5)
New Mexico	44 (3.3) <	56 (3.3) >	78 (2.7)	1 (0.7)	20 (2.8)	0 (0.0)	1 (0.4)
New York	47 (3.4)	53 (3.4)	91 (1.4)	4 (1.7)	2 (0.7)	2 (1.3)	0 (0.0)
North Carolina	20 (3.0)	80 (3.0)	85 (2.2)	13 (2.0)	0 (0.4)	0 (0.0)	1 (0.7)
North Dakota	70 (3.7)	30 (3.7)	100 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Ohio	48 (4.3)	52 (4.3)	94 (2.6)	6 (2.6)	0 (0.0)	0 (0.1)	0 (0.0)
Oklahoma	37 (3.5)	63 (3.5)	96 (1.3)	2 (1.2)	0 (0.1)	0 (0.0)	2 (0.6)
Pennsylvania	47 (3.5)	53 (3.5)	95 (1.5)	5 (1.5)	0 (0.0)	0 (0.0)	0 (0.0)
Rhode Island	44 (0.9) <	56 (0.9) >	97 (0.3)	2 (0.2)	1 (0.2)	0 (0.0)	0 (0.0)
South Carolina	18 (2.5)	82 (2.5)	81 (2.2)	19 (2.2)	0 (0.0)	0 (0.2)	0 (0.0)
Tennessee	33 (3.6)	67 (3.6)	84 (2.2)	16 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)
Texas	24 (3.1)	76 (3.1)	79 (3.0)	11 (2.4)	9 (2.0)	0 (0.3)	1 (0.4)
Utah	56 (2.7)	44 (2.7)	98 (0.6)	0 (0.4)	1 (0.3)	1 (0.3)	0 (0.0)
Virginia	20 (2.4)	80 (2.4)	82 (3.0)	18 (3.1)	0 (0.0)	0 (0.2)	0 (0.0)
West Virginia	42 (3.3)	58 (3.3)	98 (1.0)	2 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)
Wisconsin	64 (4.2)	36 (4.2)	99 (0.3)	0 (0.3)	0 (0.1)	0 (0.0)	0 (0.0)
Wyoming	59 (2.4)	41 (2.4)	99 (0.2)»	0 (0.0)	1 (0.2)«	0 (0.0)	0 (0.1) <
TERRITORIES							
Guam	35 (1.2)«	65 (1.2)»	30 (1.0)»	0 (0.0)	0 (0.0)	70 (1.0)«	0 (0.0)
Virgin Islands	64 (1.2)«	36 (1.2)»	17 (0.6)»	67 (1.1)«	16 (0.9)	0 (0.0)	0 (0.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 11.5 | Teachers' Reports on Their Gender and Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1990						
	Teachers' Gender		Teachers' Race/Ethnicity				
	Male	Female	White	Black	Hispanic	Asian / Pacific Islander	American Indian
	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students	Percentage of Students
NATION	45 (4.3)	55 (4.3)	90 (2.2)	7 (2.0)	2 (0.7)	1 (0.5)	0 (0.0)
Northeast	51(14.4)	49(14.4)	97 (1.6)	1 (0.8)	0 (0.0)	1 (1.4)	0 (0.0)
Southeast	25 (7.3)	75 (7.3)	82 (5.7)	18 (5.6)	1 (0.6)	0 (0.0)	0 (0.0)
Central	55 (9.0)	45 (9.0)	93 (3.5)	6 (3.4)	1 (0.6)	0 (0.0)	0 (0.0)
West	49 (6.6)	51 (6.6)	90 (3.8)	3 (2.6)	5 (2.1)	2 (1.2)	0 (0.0)
STATES							
Alabama	31 (4.2)	69 (4.2)	78 (3.5)	21 (3.3)	1 (0.6)	0 (0.4)	0 (0.0)
Arizona	52 (3.3)	48 (3.3)	86 (2.3)	2 (0.7)	8 (1.9)	1 (0.3)	3 (0.9)
Arkansas	26 (4.0)	74 (4.0)	87 (2.0)	11 (1.7)	0 (0.0)	1 (0.7)	1 (0.9)
California	53 (3.3)	47 (3.3)	83 (2.0)	6 (1.4)	4 (1.1)	6 (1.4)	0 (0.0)
Colorado	41 (2.8)	59 (2.8)	93 (2.1)	1 (0.3)	3 (1.3)	3 (1.5)	0 (0.0)
Connecticut	52 (2.6)	48 (2.6)	97 (0.7)	1 (0.5)	1 (0.4)	0 (0.1)	0 (0.0)
Delaware	44 (0.8)	56 (0.8)	90 (0.7)	7 (0.6)	1 (0.1)	0 (0.0)	2 (0.2)
Dist. Columbia	35 (0.8)	65 (0.8)	8 (0.8)	84 (1.0)	4 (0.3)	5 (0.6)	0 (0.0)
Florida	35 (3.0)	65 (3.0)	76 (2.8)	18 (2.3)	5 (1.5)	0 (0.3)	0 (0.2)
Georgia	19 (2.6)	81 (2.6)	77 (2.4)	22 (2.4)	1 (0.5)	0 (0.0)	0 (0.4)
Hawaii	41 (0.7)	59 (0.7)	20 (0.8)	1 (0.1)	3 (0.1)	75 (0.8)	0 (0.1)
Idaho	58 (1.9)	42 (1.9)	96 (0.4)	0 (0.0)	1 (0.2)	3 (0.2)	0 (0.2)
Indiana	50 (3.9)	50 (3.9)	98 (0.8)	1 (0.8)	0 (0.3)	0 (0.0)	0 (0.0)
Iowa	62 (5.0)	38 (5.0)	99 (0.8)	1 (0.5)	1 (0.7)	0 (0.0)	0 (0.0)
Kentucky	34 (4.4)	66 (4.4)	98 (0.9)	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)
Louisiana	32 (3.4)	68 (3.4)	75 (3.9)	25 (3.9)	0 (0.1)	0 (0.0)	0 (0.0)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	38 (3.3)	62 (3.3)	80 (2.4)	17 (2.6)	1 (1.0)	1 (0.6)	1 (0.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	55 (3.8)	45 (3.8)	90 (2.0)	9 (1.9)	0 (0.5)	0 (0.2)	1 (0.8)
Minnesota	72 (3.2)	28 (3.2)	99 (0.7)	0 (0.0)	0 (0.3)	1 (0.6)	0 (0.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	50 (2.6)	50 (2.6)	98 (0.3)	1 (0.1)	1 (0.3)	0 (0.1)	0 (0.0)
New Hampshire	29 (1.2)	71 (1.2)	100 (0.2)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)
New Jersey	34 (3.6)	66 (3.6)	90 (2.0)	8 (1.9)	2 (0.9)	1 (0.5)	0 (0.0)
New Mexico	55 (1.2)	45 (1.2)	78 (1.2)	2 (0.4)	18 (1.2)	0 (0.0)	2 (0.3)
New York	55 (3.5)	45 (3.5)	89 (2.2)	8 (1.8)	2 (0.9)	1 (0.5)	0 (0.4)
North Carolina	20 (2.6)	80 (2.6)	84 (2.6)	13 (2.1)	0 (0.0)	1 (0.5)	2 (1.1)
North Dakota	72 (3.0)	28 (3.0)	99 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.3)
Ohio	56 (3.5)	44 (3.5)	93 (2.0)	6 (1.7)	0 (0.0)	1 (0.6)	1 (0.9)
Oklahoma	32 (3.8)	68 (3.8)	92 (2.1)	3 (1.4)	0 (0.0)	0 (0.2)	5 (1.7)
Pennsylvania	58 (3.6)	42 (3.6)	92 (2.4)	7 (2.3)	0 (0.0)	0 (0.3)	0 (0.0)
Rhode Island	48 (0.8)	52 (0.8)	98 (0.2)	2 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	30 (3.0)	70 (3.0)	73 (2.8)	11 (2.2)	14 (2.0)	1 (0.6)	1 (0.9)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	24 (2.7)	76 (2.7)	82 (2.1)	18 (2.1)	0 (0.0)	0 (0.2)	0 (0.0)
West Virginia	37 (3.8)	63 (3.8)	97 (0.9)	2 (0.8)	0 (0.3)	0 (0.2)	0 (0.2)
Wisconsin	54 (4.2)	46 (4.2)	100 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Wyoming	58 (0.8)	42 (0.8)	98 (0.2)	0 (0.0)	2 (0.2)	0 (0.0)	0 (0.0)
TERRITORIES							
Guam	48 (0.7)	52 (0.7)	23 (0.7)	0 (0.0)	0 (0.0)	77 (0.7)	0 (0.0)
Virgin Islands	71 (0.7)	29 (0.7)	8 (0.5)	79 (0.8)	13 (0.6)	0 (0.0)	0 (0.0)

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Level and Type of Certification

TABLE 11.6 Teachers' Reports on Their Level and Type of Teaching Certification, Grades 4 and 8

		Level of Certification					
		None, temporary, probational, provisional, or emergency		Regular certification, but not the highest		Highest certification (permanent or long-term)	
	Assessment Years	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	**1992**	8 (1.3)	216 (2.1)	36 (2.4)>	216 (1.6)>	56 (2.4)	221 (1.2)>
	1990	9 (2.0)	215 (5.9)	26 (3.0)	210 (1.9)	65 (3.6)	215 (1.3)
Grade 8	**1992**	7 (1.0)	266 (3.6)	33 (2.2)	265 (1.4)	60 (2.2)	271 (1.4)
	1990	6 (1.4)	263 (4.6)	29 (3.9)	258 (2.9)	65 (3.8)	267 (1.8)

		Type of Certification					
		Mathematics (Middle School or Secondary)		Education (Elementary or Middle School)		Other	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	**1992**	10 (1.6)	218 (2.8)	85 (1.7)	219 (0.9)>	6 (0.9)	218 (2.3)
	1990	13 (2.5)	216 (3.8)	84 (2.5)	213 (1.0)	3 (1.2)	216 (6.8)
Grade 8	**1992**	74 (2.4)	270 (1.3)>	19 (2.3)	265 (2.0)	7 (1.2)	268 (4.1)
	1990	81 (2.1)	264 (1.6)	14 (2.4)	260 (3.4)	5 (1.5)	267 (4.9)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 11.7 | Teachers' Reports on Their Level of Teaching Certification

PUBLIC SCHOOLS	Grade 4 - 1992					
	None, Temporary, Probational, Provisional, or Emergency		Regular Certification, but Not Highest Level		Highest Certification (Permanent or Long-Term)	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (1.2)	212 (2.3)	36 (2.6)	215 (1.8)	57 (2.5)	220 (1.3)
Northeast	5 (2.2)	*** (***)	26 (5.3)	222 (6.1)!	69 (5.1)	224 (2.7)
Southeast	6 (2.4)	201 (4.5)!	57 (4.4)	209 (2.4)	37 (4.4)	207 (3.2)
Central	6 (2.7)	*** (***)	30 (5.7)	224 (3.8)!	64 (6.3)	224 (2.6)
West	9 (2.4)	211 (3.5)!	30 (4.5)	211 (3.5)	60 (4.2)	221 (2.1)
STATES						
Alabama	0 (0.0)	*** (***)	80 (2.9)	208 (1.8)	20 (2.9)	208 (3.1)
Arizona	6 (1.1)	211 (5.0)	37 (2.8)	214 (1.7)	57 (2.8)	215 (1.5)
Arkansas	1 (0.5)	*** (***)	50 (3.4)	210 (1.2)	50 (3.3)	209 (1.8)
California	7 (1.9)	185 (6.5)!	16 (2.4)	205 (4.2)	77 (2.9)	210 (1.7)
Colorado	3 (1.0)	219 (7.9)!	41 (3.1)	219 (1.9)	55 (3.1)	220 (1.3)
Connecticut	12 (1.9)	223 (3.5)	16 (2.4)	227 (2.4)	72 (3.0)	228 (1.5)
Delaware	6 (0.5)	217 (2.7)	23 (1.1)	218 (1.8)	72 (1.3)	217 (1.0)
Dist. Columbia	12 (0.6)	190 (1.9)	16 (0.6)	187 (2.1)	72 (0.8)	192 (0.8)
Florida	9 (1.8)	206 (5.8)	58 (2.8)	213 (2.0)	32 (2.5)	215 (2.1)
Georgia	2 (0.7)	*** (***)	79 (2.5)	214 (1.4)	20 (2.4)	213 (2.4)
Hawaii	4 (1.5)	212 (3.3)!	45 (3.2)	211 (1.8)	51 (3.1)	214 (1.9)
Idaho	2 (0.8)	*** (***)	44 (3.1)	220 (1.6)	54 (3.2)	220 (1.3)
Indiana	0 (0.2)	*** (***)	22 (3.0)	218 (2.5)	77 (3.0)	219 (1.2)
Iowa	4 (1.4)	226 (5.3)!	49 (3.6)	228 (1.2)	47 (3.4)	231 (1.7)
Kentucky	8 (1.9)	212 (3.2)!	54 (3.2)	211 (1.4)	37 (3.5)	217 (1.6)
Louisiana	4 (1.2)	189 (6.0)!	53 (3.9)	203 (2.0)	44 (3.7)	205 (2.7)
Maine	8 (1.8)	228 (3.9)!	48 (3.9)	231 (1.5)	44 (4.2)	231 (1.7)
Maryland	2 (0.6)	*** (***)	43 (3.2)	215 (2.5)	56 (3.2)	219 (1.8)
Massachusetts	1 (0.6)	*** (***)	29 (3.1)	224 (2.1)	70 (3.1)	225 (1.5)
Michigan	13 (2.2)	218 (4.4)	16 (2.8)	218 (4.2)	72 (3.2)	220 (2.0)
Minnesota	1 (0.6)	*** (***)	32 (3.2)	226 (1.5)	67 (3.1)	228 (1.4)
Mississippi	4 (1.5)	196 (5.3)!	82 (3.0)	199 (1.3)	14 (2.7)	204 (4.6)
Missouri	2 (0.8)	*** (***)	25 (2.9)	219 (2.5)	72 (2.9)	222 (1.3)
Nebraska	2 (0.8)	*** (***)	55 (4.2)	224 (1.6)	43 (4.3)	225 (2.0)
New Hampshire	1 (0.4)	*** (***)	31 (3.4)	226 (1.7)	69 (3.4)	231 (1.5)
New Jersey	2 (0.8)	*** (***)	15 (2.5)	217 (3.4)	83 (2.6)	229 (1.6)
New Mexico	3 (1.1)	*** (***)	54 (3.5)	210 (2.4)	43 (3.6)	214 (1.5)
New York	14 (2.5)	205 (4.1)	10 (2.0)	212 (3.6)!	75 (2.7)	220 (1.3)
North Carolina	6 (1.3)	214 (6.5)!	61 (3.2)	211 (1.2)	34 (3.1)	216 (2.0)
North Dakota	0 (0.0)	*** (***)	37 (4.3)	226 (1.5)	63 (4.3)	229 (0.9)
Ohio	15 (2.7)	215 (2.9)	53 (3.4)	219 (1.7)	32 (2.8)	215 (2.1)
Oklahoma	2 (0.9)	*** (***)	49 (4.1)	219 (1.3)	49 (4.1)	219 (1.6)
Pennsylvania	4 (1.3)	214 (7.2)!	21 (2.7)	215 (2.8)	74 (2.9)	226 (1.6)
Rhode Island	6 (1.5)	209 (5.3)!	36 (2.9)	211 (2.7)	58 (3.1)	217 (1.8)
South Carolina	1 (0.4)	*** (***)	38 (3.4)	210 (2.3)	61 (3.5)	212 (1.3)
Tennessee	5 (1.1)	196 (4.2)!	49 (3.1)	211 (1.9)	46 (3.3)	209 (1.9)
Texas	11 (2.2)	206 (4.6)	38 (3.6)	217 (2.4)	50 (3.7)	219 (2.1)
Utah	3 (1.0)	217 (7.1)!	34 (3.3)	221 (1.7)	64 (3.3)	224 (1.4)
Virginia	3 (0.8)	213 (3.9)!	33 (3.6)	218 (2.7)	64 (3.6)	221 (1.4)
West Virginia	2 (0.8)	*** (***)	44 (3.6)	213 (1.7)	54 (3.6)	214 (1.5)
Wisconsin	0 (0.4)	*** (***)	30 (3.3)	226 (1.7)	69 (3.3)	229 (1.2)
Wyoming	0 (0.0)	*** (***)	40 (3.7)	224 (1.5)	60 (3.7)	225 (1.2)
TERRITORY						
Guam	2 (0.6)	*** (***)	57 (1.1)	194 (1.3)	41 (1.2)	188 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.7 | Teachers' Reports on Their Level of Teaching Certification (continued)

	Grade 8 - 1992					
	None, Temporary, Probational, Provisional, or Emergency		Regular Certification, but Not Highest Level		Highest Certification (Permanent or Long-Term)	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	4 (1.0)	255 (4.8)!	33 (2.4)	263 (1.6)	63 (2.4)	270 (1.5)
Northeast	3 (1.2)	*** (***)	19 (4.0)	266 (5.4)!	78 (4.1)	268 (3.3)
Southeast	5 (2.6)	253(15.2)!	51 (5.7)	259 (1.7)	44 (5.1)	263 (3.2)
Central	2 (1.4)	*** (***)	32 (5.6)	271 (3.5)!	66 (6.8)	276 (2.6)
West	6 (1.9)	249 (2.2)!	30 (3.0)	262 (3.2)	64 (3.0)	271 (2.3)
STATES						
Alabama	0 (0.1)	*** (***)	81 (3.6)	252 (1.6)	19 (3.6)	249 (6.1)
Arizona	5 (1.4)	265 (5.4)!	40 (3.2)»	262 (2.2)	55 (3.4)«	266 (1.9)
Arkansas	1 (0.5)	*** (***)	37 (3.4)	251 (1.5)	62 (3.5)	258 (1.7)
California	12 (2.4)	244 (4.8)!	27 (3.7) >	263 (3.5) >	61 (4.2) <	264 (1.9)
Colorado	2 (0.7)	*** (***)	38 (3.1)	270 (2.0)	60 (3.1)	273 (1.5) >
Connecticut	5 (1.7)	254 (6.3)! <	12 (2.8) >	264 (7.0)!	83 (3.4)	276 (1.4)»
Delaware	4 (0.4)»	264 (4.3)	25 (0.8)»	260 (2.2) >	71 (0.9)«	263 (1.0)
Dist. Columbia	10 (0.7)«	241 (4.9)	11 (0.6)»	221 (2.1)«	79 (0.8)»	236 (0.9)»
Florida	7 (1.5)	253 (4.8)!	39 (3.2)	259 (1.8)	53 (3.3)	260 (2.2)
Georgia	5 (1.3)	249 (6.9)!	77 (2.8)	258 (1.5)	19 (2.7)	265 (3.4)
Hawaii	9 (0.4)	240 (2.5)	43 (0.8)»	261 (1.2) >	48 (0.9)«	257 (1.4) >
Idaho	1 (0.7) <	*** (***)	29 (3.0)	272 (1.8)	70 (3.0)	276 (1.0)
Indiana	1 (0.7)	*** (***)	21 (2.8)	263 (2.8)	78 (3.0)	271 (1.4)
Iowa	2 (1.1)	275 (9.7)!	51 (4.5)	284 (1.5) >	46 (4.8)	281 (1.4)
Kentucky	14 (3.1)	261 (3.2)!	46 (4.0)»	262 (1.5)	40 (3.4)«	263 (1.9) >
Louisiana	7 (1.4)	235 (5.6)!	36 (3.7)	253 (2.3)	57 (3.8) <	249 (2.5)
Maine	3 (1.3)	272 (7.3)!	53 (4.0)	278 (1.2)	44 (3.9)	278 (1.8)
Maryland	3 (1.1)	262 (5.8)!	27 (3.0) >	266 (3.5)	70 (3.1)	265 (1.9)
Massachusetts	1 (0.6)	*** (***)	12 (2.6)	264 (4.1)!	87 (2.6)	273 (1.2)
Michigan	17 (2.5) >	263 (4.2)	12 (1.9) >	268 (4.6)	71 (2.9)«	267 (1.6)
Minnesota	2 (0.9)	*** (***)	19 (2.5)	281 (2.6) >	79 (2.5)	283 (1.2) >
Mississippi	3 (1.2)	229 (4.2)!	84 (2.6)	246 (1.5)	12 (2.4)	247 (4.1)!
Missouri	3 (1.1)	*** (***)	20 (2.7)	265 (2.5)	77 (3.1)	273 (1.2)
Nebraska	2 (1.2)	*** (***)	48 (4.0) <	278 (1.6)	50 (3.9) >	277 (1.7)
New Hampshire	0 (0.3)«	*** (***)	25 (3.2) <	275 (1.4)	74 (3.2)»	278 (1.3)
New Jersey	1 (0.5)	*** (***)	23 (4.4)»	264 (4.6)	76 (4.3)«	273 (2.1)
New Mexico	3 (0.9)	*** (***)	55 (3.1) >	258 (1.3)	43 (3.3) <	262 (1.5) >
New York	7 (1.8)	259 (8.8)!	12 (2.6) >	242 (7.6)!	81 (3.2)	270 (2.1) >
North Carolina	4 (0.9)	250 (7.5)!	53 (4.0)	257 (1.7)»	43 (3.9)	259 (1.5) >
North Dakota	1 (1.0)	*** (***)	29 (3.9)	281 (2.2)	70 (4.0)	283 (1.1)
Ohio	17 (3.2)	266 (3.8)	50 (4.6) >	268 (2.5)	32 (3.7) <	267 (3.8)
Oklahoma	2 (0.8)	*** (***)	37 (3.7)	263 (2.0)	61 (3.7)	270 (1.6)
Pennsylvania	3 (1.2)	257(11.4)!	20 (3.3)	269 (3.2) >	77 (3.4)	271 (1.6)
Rhode Island	7 (0.5)»	262 (2.0)	22 (0.9)»	257 (1.4)	71 (1.1)«	268 (0.8)»
South Carolina	2 (0.7)	*** (***)	30 (3.2)	258 (2.5)	68 (3.1)	261 (1.2)
Tennessee	4 (1.5)	255 (4.2)!	36 (3.9)	252 (2.4)	60 (3.7)	261 (1.7)
Texas	17 (2.7)	264 (3.4) >	26 (3.1) >	260 (2.9)	58 (3.2) <	265 (1.5)»
Utah	7 (1.4)	264 (2.6)	30 (2.5)	273 (1.6)	62 (2.7)	275 (1.1)
Virginia	3 (1.1) <	266 (4.6)!	27 (3.0)	263 (2.0)	69 (3.2)	269 (1.5)
West Virginia	10 (2.3)	256 (2.8)!	42 (3.9)	256 (1.6)	47 (3.8)	261 (1.6)
Wisconsin	1 (0.5)	*** (***)	32 (5.6) >	274 (4.4)	68 (5.6) <	281 (1.4) >
Wyoming	0 (0.0)	*** (***)	45 (2.9) <	276 (1.3) >	55 (2.9) >	273 (1.2)
TERRITORIES						
Guam	4 (0.4)«	*** (***)	48 (1.1)«	230 (1.7)	48 (1.0)»	237 (1.7) >
Virgin Islands	35 (0.7)«	218 (1.9)	41 (1.0)»	221 (1.3)	25 (0.8)«	224 (2.4)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 11.7 | Teachers' Reports on Their Level of Teaching Certification (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	None, Temporary, Probational, Provisional, or Emergency		Regular Certification, but Not Highest Level		Highest Certification (Permanent or Long-Term)	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	4 (1.2)	260 (6.6)!	29 (4.3)	257 (3.1)	66 (4.3)	266 (1.9)
Northeast	0 (0.0)	*** (***)	19(11.5)	*** (***)	81(11.5)	273 (4.9)
Southeast	5 (2.3)	*** (***)	53(10.4)	252 (3.7)!	42(10.7)	264 (4.2)!
Central	4 (2.7)	*** (***)	25 (7.3)	263 (6.3)!	71 (7.3)	265 (3.5)
West	6 (2.4)	*** (***)	20 (3.3)	254 (6.9)	74 (3.3)	265 (2.8)
STATES						
Alabama	1 (0.6)	*** (***)	70 (3.9)	252 (1.4)	29 (3.8)	257 (2.1)
Arizona	4 (1.0)	255 (7.0)!	23 (2.8)	256 (3.2)	73 (2.7)	261 (1.3)
Arkansas	2 (1.4)	*** (***)	40 (4.2)	255 (1.8)	57 (4.3)	259 (1.4)
California	11 (2.0)	242 (4.1)	13 (2.3)	248 (4.1)	76 (2.5)	261 (1.5)
Colorado	6 (1.7)	265 (3.6)!	41 (2.9)	266 (1.6)	53 (3.4)	268 (1.4)
Connecticut	11 (2.2)	274 (2.7)!	4 (1.3)	273 (6.6)!	85 (2.5)	269 (1.1)
Delaware	2 (0.2)	*** (***)	15 (0.8)	253 (1.7)	83 (0.8)	264 (1.0)
Dist. Columbia	23 (0.7)	238 (2.4)	6 (0.3)	233 (1.7)	71 (0.7)	230 (0.9)
Florida	9 (1.9)	251 (3.9)!	36 (3.1)	254 (2.2)	55 (3.0)	259 (1.7)
Georgia	5 (1.6)	243 (8.5)!	78 (2.8)	259 (1.4)	18 (2.3)	259 (3.1)
Hawaii	9 (0.6)	232 (2.6)	29 (0.8)	256 (1.5)	62 (0.9)	252 (1.0)
Idaho	3 (0.4)	260 (4.9)	34 (1.5)	268 (1.0)	63 (1.5)	274 (1.1)
Indiana	2 (0.9)	*** (***)	15 (2.9)	266 (2.3)!	83 (2.9)	268 (1.4)
Iowa	1 (1.2)	*** (***)	56 (4.2)	278 (1.6)	42 (4.2)	278 (1.5)
Kentucky	12 (2.5)	261 (2.9)!	26 (3.4)	258 (2.5)	62 (3.7)	256 (1.4)
Louisiana	5 (1.5)	232 (5.1)!	25 (3.6)	246 (2.1)	70 (3.8)	247 (1.6)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	3 (1.2)	263 (5.2)!	17 (2.7)	257 (3.9)	79 (3.0)	262 (1.8)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	9 (2.2)	265 (3.0)!	5 (1.4)	255 (5.1)!	87 (2.7)	265 (1.3)
Minnesota	2 (1.0)	*** (***)	22 (3.5)	272 (2.7)	76 (3.5)	277 (1.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	4 (1.0)	260 (5.8)!	61 (3.3)	275 (1.5)	35 (3.0)	278 (1.3)
New Hampshire	4 (0.5)	262 (4.6)	36 (1.4)	271 (1.7)	60 (1.4)	275 (1.0)
New Jersey	1 (0.5)	*** (***)	5 (1.5)	251 (7.0)!	94 (1.6)	271 (1.2)
New Mexico	2 (0.4)	*** (***)	45 (1.1)	258 (1.2)	53 (1.2)	256 (1.1)
New York	13 (2.0)	239 (4.8)	3 (1.1)	*** (***)	84 (2.3)	264 (1.3)
North Carolina	5 (1.5)	249 (4.5)!	45 (3.3)	249 (1.9)	50 (3.3)	253 (1.6)
North Dakota	1 (0.2)	*** (***)	30 (4.1)	281 (2.8)	69 (4.1)	281 (1.4)
Ohio	17 (3.2)	261 (2.4)	34 (4.0)	265 (2.7)	49 (4.5)	266 (1.8)
Oklahoma	1 (0.4)	*** (***)	31 (3.2)	262 (2.0)	69 (3.2)	265 (1.6)
Pennsylvania	7 (2.2)	254 (9.9)!	14 (2.7)	255 (4.8)!	80 (3.2)	269 (1.6)
Rhode Island	3 (0.2)	258 (3.7)	7 (0.9)	255 (2.3)	90 (0.9)	261 (0.6)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	13 (2.6)	251 (3.4)!	14 (2.4)	254 (4.1)	73 (3.4)	257 (1.7)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	8 (1.5)	252 (4.4)	24 (3.0)	261 (3.2)	68 (3.4)	266 (1.8)
West Virginia	15 (2.8)	251 (2.2)	31 (3.4)	253 (1.9)	54 (3.7)	259 (1.3)
Wisconsin	1 (0.9)	*** (***)	10 (2.4)	274 (3.2)!	88 (2.6)	276 (1.4)
Wyoming	1 (0.4)	*** (***)	53 (1.3)	273 (0.9)	46 (1.3)	272 (0.8)
TERRITORIES						
Guam	10 (0.4)	220 (1.8)	55 (0.9)	235 (1.4)	35 (0.9)	231 (1.5)
Virgin Islands	41 (1.0)	217 (1.4)	8 (0.6)	224 (2.9)	51 (0.7)	221 (1.1)

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TABLE 11.8 | Teachers' Reports on the Type of Their Teaching Certification

PUBLIC SCHOOLS	Grade 4 - 1992					
	Mathematics (Middle School or Secondary)		Education (Elementary or Middle School)		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	10 (1.6)	217 (3.1)	87 (1.8)	218 (1.0)	4 (0.8)	213 (3.7)!
Northeast	1 (0.4)	*** (***)	95 (1.8)	223 (2.4)	4 (1.8)	*** (***)
Southeast	14 (4.4)	206 (5.7)!	81 (5.0)	208 (1.5)	5 (1.2)	207 (6.0)!
Central	12 (3.3)	227 (4.0)!	86 (2.5)	224 (2.1)	2 (2.3)	*** (***)
West	10 (2.4)	219 (4.0)!	87 (3.1)	217 (2.0)	4 (1.1)	*** (***)
STATES						
Alabama	13 (2.7)	207 (3.5)!	85 (2.8)	208 (1.8)	2 (1.0)	*** (***)
Arizona	11 (1.7)	215 (2.6)	88 (1.7)	214 (1.1)	1 (0.5)	*** (***)
Arkansas	6 (1.7)	213 (4.0)!	91 (1.9)	209 (0.9)	3 (0.7)	192 (2.5)!
California	9 (2.2)	211 (3.8)!	87 (2.3)	208 (1.7)	4 (1.1)	174 (8.4)!
Colorado	1 (0.6)	*** (***)	97 (1.0)	220 (1.1)	2 (0.8)	*** (***)
Connecticut	17 (2.5)	232 (3.1)	81 (2.6)	226 (1.5)	3 (0.9)	*** (***)
Delaware	7 (0.5)	227 (3.7)	88 (0.5)	217 (0.8)	5 (0.3)	206 (3.0)
Dist. Columbia	2 (0.3)	*** (***)	92 (0.5)	191 (0.7)	6 (0.5)	190 (2.8)
Florida	3 (1.3)	*** (***)	94 (1.5)	213 (1.6)	3 (0.8)	215 (6.7)!
Georgia	8 (1.7)	211 (5.2)!	89 (2.2)	214 (1.4)	4 (1.2)	216 (4.2)!
Hawaii	1 (0.6)	*** (***)	97 (0.8)	213 (1.4)	2 (0.5)	*** (***)
Idaho	10 (1.8)	222 (2.3)	87 (1.8)	220 (1.0)	3 (0.9)	215 (5.2)!
Indiana	8 (2.1)	228 (3.2)!	89 (2.3)	219 (1.1)	2 (0.8)	*** (***)
Iowa	21 (3.3)	229 (2.6)	78 (3.3)	229 (1.2)	1 (0.6)	*** (***)
Kentucky	19 (4.0)	215 (2.8)!	78 (4.1)	213 (1.1)	3 (1.2)	206 (5.3)!
Louisiana	13 (2.0)	209 (4.3)	81 (2.7)	203 (1.6)	5 (1.7)	193 (3.4)!
Maine	12 (3.1)	227 (2.5)!	87 (3.1)	231 (1.2)	1 (0.6)	*** (***)
Maryland	18 (2.4)	220 (2.7)	79 (2.5)	216 (1.7)	2 (0.8)	204(10.5)!
Massachusetts	5 (1.6)	234 (5.8)!	93 (1.7)	225 (1.3)	1 (0.7)	*** (***)
Michigan	19 (3.0)	220 (3.6)	79 (3.1)	220 (1.9)	2 (1.2)	*** (***)
Minnesota	0 (0.3)	*** (***)	96 (1.2)	227 (1.1)	3 (1.1)	229 (4.0)!
Mississippi	17 (3.1)	201 (4.0)	82 (3.1)	200 (1.5)	1 (0.4)	*** (***)
Missouri	10 (1.9)	223 (3.4)!	88 (2.0)	221 (1.3)	2 (0.6)	*** (***)
Nebraska	6 (1.8)	226 (3.4)!	91 (2.3)	224 (1.3)	3 (1.0)	*** (***)
New Hampshire	2 (1.0)	*** (***)	96 (1.1)	229 (1.3)	2 (0.9)	*** (***)
New Jersey	10 (2.1)	232 (3.5)!	87 (2.3)	226 (1.6)	3 (1.0)	207(10.8)!
New Mexico	14 (2.7)	211 (2.1)	83 (2.7)	212 (1.7)	3 (1.1)	215 (8.1)!
New York	3 (1.0)	*** (***)	91 (1.7)	218 (1.3)	6 (1.6)	199 (6.3)!
North Carolina	5 (1.2)	215 (4.9)!	92 (1.5)	212 (1.0)	3 (0.9)	205 (6.9)!
North Dakota	14 (3.2)	229 (2.6)!	84 (3.3)	228 (0.9)	2 (1.1)	*** (***)
Ohio	8 (1.8)	221 (4.3)!	91 (1.9)	217 (1.3)	1 (0.7)	*** (***)
Oklahoma	15 (2.7)	217 (2.4)	82 (2.9)	220 (1.1)	3 (1.2)	216 (2.9)!
Pennsylvania	5 (1.0)	225 (6.2)!	93 (1.4)	224 (1.5)	3 (0.9)	208 (8.9)!
Rhode Island	1 (0.6)	*** (***)	97 (1.1)	214 (1.6)	2 (0.8)	*** (***)
South Carolina	6 (1.5)	208 (4.8)!	90 (1.6)	211 (1.1)	4 (1.1)	212 (4.5)!
Tennessee	20 (2.6)	214 (2.0)	78 (2.8)	209 (1.6)	2 (0.9)	*** (***)
Texas	8 (1.6)	220 (3.3)	88 (1.6)	217 (1.3)	4 (0.9)	202(12.9)!
Utah	3 (1.0)	223 (4.6)!	93 (1.4)	223 (1.0)	4 (1.1)	216 (4.3)!
Virginia	12 (2.1)	221 (3.4)	87 (2.1)	219 (1.5)	2 (0.7)	*** (***)
West Virginia	12 (1.9)	216 (2.4)	85 (2.1)	213 (1.3)	3 (1.0)	210 (6.4)!
Wisconsin	10 (2.2)	230 (3.4)!	88 (2.2)	228 (1.2)	2 (0.8)	*** (***)
Wyoming	4 (1.1)	235 (4.3)!	93 (1.6)	224 (1.0)	4 (1.3)	223 (4.2)!
TERRITORY						
Guam	2 (0.3)	*** (***)	98 (0.4)	192 (0.9)	0 (0.3)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.8 | Teachers' Reports on the Type of Their Teaching Certification (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Mathematics (Middle School or Secondary)		Education (Elementary or Middle School)		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	79 (2.7)	269 (1.4)	18 (2.6)	262 (2.3)	4 (1.2)	256 (7.5)!
Northeast	75 (6.8)	270 (4.2)	24 (6.8)	260 (7.5)!	1 (0.6)	*** (***)
Southeast	77 (6.1)	262 (1.6)	21 (5.3)	261 (2.0)!	2 (1.7)	*** (***)
Central	86 (5.0)	275 (2.7)	9 (3.6)	269 (5.3)!	6 (4.3)	*** (***)
West	78 (4.8)	268 (2.5)	17 (5.2)	261 (3.9)!	5 (1.2)	258(13.3)!
STATES						
Alabama	81 (3.5)<	254 (1.8)	16 (3.3)	240 (3.8)!	3 (1.2)	234 (7.5)!
Arizona	52 (3.2)>	265 (1.8)	43 (3.5)	264 (1.8)	5 (1.5)	262 (5.0)!
Arkansas	94 (1.8)	256 (1.2)	5 (1.8)	242 (4.0)!	0 (0.2)	*** (***)
California	73 (3.4)	262 (1.9)	22 (3.2)	261 (3.2)	5 (1.3)	239 (4.5)!
Colorado	71 (2.6)	273 (1.2)>	19 (2.3)	265 (2.7)	10 (2.0)>	273 (3.3)
Connecticut	78 (3.3)	276 (1.3)	20 (3.3)	265 (4.4)	1 (0.5)	*** (***)
Delaware	81 (0.7)«	264 (1.0)	16 (0.7)»	250 (2.4)	2 (0.3)	*** (***)
Dist. Columbia	92 (0.4)	234 (0.9)	3 (0.3)«	221 (2.8)<	5 (0.3)»	251 (6.4)
Florida	95 (1.2)	260 (1.4)	2 (0.5)<	*** (***)	3 (0.9)	240(10.0)!
Georgia	58 (3.6)	260 (1.7)	38 (3.6)	257 (2.4)	4 (1.1)>	247 (2.9)!
Hawaii	76 (0.8)	262 (0.9)»	16 (0.6)>	240 (2.3)	9 (0.5)	238 (2.3)
Idaho	74 (2.5)	277 (0.9)>	24 (2.4)>	268 (1.9)	1 (0.7)	*** (***)
Indiana	94 (1.6)	270 (1.2)	5 (1.3)	259 (5.9)!	1 (0.8)	*** (***)
Iowa	86 (2.8)	284 (1.1)>	12 (2.7)	278 (3.5)!	2 (0.8)	*** (***)
Kentucky	69 (3.1)	266 (1.4)»	29 (3.0)	253 (1.7)	2 (0.7)	241 (7.6)!
Louisiana	56 (3.9)	252 (2.5)	36 (4.0)	249 (2.1)	9 (1.9)	230 (4.1)!
Maine	69 (3.4)	280 (1.3)	29 (3.3)	274 (1.8)	2 (1.0)	*** (***)
Maryland	86 (2.5)	267 (1.5)	9 (2.3)	254 (4.7)!	5 (0.9)	251 (5.9)!
Massachusetts	86 (2.2)	274 (1.2)	11 (2.2)	258 (4.0)!	3 (1.1)	261(15.2)!
Michigan	73 (2.4)<	269 (1.6)	24 (2.5)	261 (2.5)	3 (0.9)	265(10.0)!
Minnesota	95 (1.9)	283 (1.0)»	1 (0.3)	*** (***)	4 (1.8)	278 (4.0)!
Mississippi	72 (2.8)	246 (1.3)	26 (2.6)	244 (2.5)	2 (1.1)	*** (***)
Missouri	92 (1.7)	272 (1.1)	6 (1.4)	255 (5.7)!	2 (0.9)	262 (7.4)!
Nebraska	92 (2.4)	278 (1.1)	3 (1.3)	*** (***)	5 (2.0)	268 (5.3)!
New Hampshire	78 (3.0)	278 (1.0)>	15 (2.5)	277 (2.7)	8 (1.5)>	273 (2.8)
New Jersey	63 (3.9)	278 (2.1)	34 (3.6)	259 (3.1)	2 (1.3)	*** (***)
New Mexico	76 (2.6)	261 (1.2)	20 (2.7)<	255 (2.1)	4 (1.5)	245 (5.1)!
New York	90 (2.2)	269 (1.9)	8 (1.9)	240 (8.9)!	2 (0.7)	*** (***)
North Carolina	87 (2.3)	260 (1.2)»	10 (2.2)	250 (4.4)!	3 (0.7)	222 (9.8)!
North Dakota	91 (1.9)	283 (1.2)	9 (1.9)	281 (3.4)!	0 (0.1)«	*** (***)
Ohio	70 (4.1)	269 (1.9)	28 (4.1)	267 (2.7)	1 (0.6)	*** (***)
Oklahoma	87 (2.6)	269 (1.2)>	11 (2.4)	254 (2.7)!	1 (0.5)	*** (***)
Pennsylvania	91 (1.8)	273 (1.5)	7 (1.6)	250 (5.9)!	2 (0.8)	*** (***)
Rhode Island	93 (0.3)«	265 (0.8)»	3 (0.2)	267 (2.8)»	4 (0.2)»	269 (4.8)
South Carolina	75 (2.4)	265 (1.3)	24 (2.4)	246 (2.2)	1 (0.5)	*** (***)
Tennessee	73 (3.5)	260 (1.7)	23 (3.3)	254 (3.0)	4 (1.3)	243 (4.9)!
Texas	77 (2.7)<	265 (1.6)»	19 (2.4)>	264 (2.5)	4 (1.2)	243 (5.6)!
Utah	87 (1.5)	275 (0.9)	5 (0.9)	263 (4.3)	8 (1.3)	266 (2.4)
Virginia	92 (1.5)	268 (1.3)	4 (1.2)	243 (5.3)!	4 (1.0)	260 (9.4)!
West Virginia	93 (1.7)	259 (1.0)	5 (1.4)	252 (6.4)!	2 (0.9)	*** (***)
Wisconsin	73 (3.8)	281 (1.6)	26 (3.7)	270 (3.1)	1 (0.9)	*** (***)
Wyoming	92 (1.6)	275 (0.9)	8 (1.6)	273 (1.9)!>	1 (0.3)	*** (***)
TERRITORIES						
Guam	86 (1.0)»	236 (1.2)>	11 (1.0)«	226 (2.7)	3 (0.3)	*** (***)
Virgin Islands	47 (0.9)«	226 (1.3)>	0 (0.0)	*** (***)	53 (0.9)»	218 (1.5)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 11.8 | Teachers' Reports on the Type of Their Teaching Certification (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Mathematics (Middle School or Secondary)		Education (Elementary or Middle School)		Other	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	84 (2.2)	264 (1.6)	12 (2.6)	259 (4.3)!	4 (1.5)	269 (5.6)!
Northeast	89 (3.7)	271 (3.1)	8 (3.8)	*** (***)	4 (3.7)	*** (***)
Southeast	84 (5.1)	258 (3.1)	14 (4.6)	253 (8.9)!	2 (1.5)	*** (***)
Central	77 (4.5)	266 (3.0)	17 (7.5)	255 (9.1)!	7 (4.8)	*** (***)
West	88 (3.0)	263 (3.0)	9 (2.8)	258 (6.5)!	2 (1.3)	*** (***)
STATES						
Alabama	92 (2.2)	254 (1.2)	7 (2.1)	239 (5.7)!	1 (0.4)	*** (***)
Arizona	41 (2.6)	263 (1.5)	52 (3.0)	258 (2.0)	8 (1.9)	253 (5.0)!
Arkansas	94 (2.0)	257 (0.9)	2 (1.1)	*** (***)	4 (1.7)	246 (5.9)!
California	72 (3.4)	259 (1.7)	24 (3.3)	253 (2.4)	4 (0.8)	241 (6.4)!
Colorado	79 (2.5)	268 (1.2)	17 (1.9)	260 (2.4)	4 (1.6)	264 (4.1)!
Connecticut	75 (2.5)	273 (1.1)	21 (2.6)	258 (1.9)	3 (1.4)	266 (5.6)!
Delaware	88 (0.7)	264 (0.9)	11 (0.6)	251 (2.8)	1 (0.3)	*** (***)
Dist. Columbia	92 (0.7)	231 (1.0)	6 (0.7)	230 (2.3)	1 (0.2)	*** (***)
Florida	93 (1.2)	258 (1.3)	5 (1.0)	233 (4.6)!	3 (0.8)	*** (***)
Georgia	55 (3.3)	258 (1.6)	44 (3.3)	259 (1.8)	1 (0.3)	*** (***)
Hawaii	78 (0.7)	256 (0.9)	13 (0.6)	234 (2.1)	9 (0.4)	234 (2.9)
Idaho	80 (1.0)	274 (0.9)	17 (0.9)	264 (1.7)	2 (0.3)	248 (5.7)
Indiana	96 (1.2)	268 (1.3)	3 (1.1)	261 (6.0)!	1 (0.3)	*** (***)
Iowa	85 (3.3)	279 (1.3)	12 (3.0)	269 (3.0)!	3 (1.5)	277 (4.3)!
Kentucky	62 (3.8)	260 (1.2)	36 (3.8)	253 (1.9)	3 (1.2)	253 (7.2)!
Louisiana	59 (4.0)	247 (1.7)	37 (4.1)	247 (1.9)	5 (1.5)	228 (4.7)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	87 (2.1)	263 (1.6)	10 (1.9)	252 (3.5)	3 (0.7)	237(12.2)!
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	81 (2.4)	266 (1.3)	17 (2.3)	258 (2.2)	1 (0.9)	*** (***)
Minnesota	98 (0.9)	276 (1.0)	1 (0.4)	*** (***)	2 (0.8)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	94 (1.0)	276 (1.0)	5 (1.0)	266 (7.0)	1 (0.1)	*** (***)
New Hampshire	80 (1.5)	273 (1.1)	16 (1.4)	272 (1.5)	3 (0.5)	265 (4.2)
New Jersey	63 (3.4)	279 (1.6)	36 (3.4)	255 (2.6)	1 (0.5)	*** (***)
New Mexico	71 (1.3)	258 (0.8)	28 (1.3)	252 (1.1)	1 (0.1)	*** (***)
New York	85 (2.3)	265 (1.6)	10 (1.7)	237 (4.2)	5 (1.7)	225 (7.5)
North Carolina	89 (1.7)	252 (1.1)	8 (1.6)	237 (4.3)	3 (0.6)	234 (7.1)!
North Dakota	91 (1.6)	282 (1.3)	5 (1.4)	274 (3.1)!	3 (0.6)	280 (5.7)
Ohio	75 (3.5)	266 (1.5)	25 (3.6)	260 (2.6)	1 (0.3)	*** (***)
Oklahoma	80 (3.6)	265 (1.4)	19 (3.4)	258 (3.0)	1 (0.7)	*** (***)
Pennsylvania	89 (2.8)	270 (1.4)	9 (2.7)	238 (4.8)!	2 (0.8)	*** (***)
Rhode Island	96 (0.3)	261 (0.6)	3 (0.2)	250 (3.1)	1 (0.2)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	86 (2.4)	256 (1.4)	10 (2.0)	260 (3.6)	4 (1.4)	248 (9.5)!
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	94 (1.5)	265 (1.6)	4 (1.4)	246 (3.9)!	2 (0.7)	*** (***)
West Virginia	95 (1.5)	257 (1.0)	2 (0.8)	*** (***)	3 (1.2)	247 (9.2)!
Wisconsin	74 (3.7)	277 (1.3)	23 (3.5)	272 (2.9)	2 (1.3)	*** (***)
Wyoming	91 (0.7)	273 (0.7)	9 (0.6)	265 (2.4)	1 (0.3)	*** (***)
TERRITORIES						
Guam	64 (0.5)	232 (0.9)	36 (0.5)	231 (1.2)	0 (0.0)	*** (***)
Virgin Islands	52 (0.7)	220 (1.2)	23 (0.4)	220 (1.9)	25 (0.7)	217 (1.7)

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TABLE 11.9 Teachers' Reports on Their Highest Academic Degree, Grades 4 and 8

	Assessment Years	Bachelor's Degree		Master's or Specialist's Degree		Doctorate or Professional Degree	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	**1992**	56 (2.3)	218 (1.1)>	44 (2.3)	219 (1.3)>	0 (0.3)	216 (2.3)
	1990	63 (3.3)	214 (1.2)	37 (3.3)	212 (1.8)	0 (0.0)	269 (**)
White	**1992**	56 (2.7)	226 (1.2)>	44 (2.7)	227 (1.3)>	0 (0.2)	217 (6.0)
	1990	64 (4.0)	221 (1.3)	36 (4.0)	220 (2.2)	0 (0.0)	*** (0.0)
Black	**1992**	55 (3.8)	192 (1.9)	44 (3.8)	193 (2.1)	1 (0.4)	219(12.9)
	1990	56 (5.7)	191 (2.7)	44 (5.7)	190 (2.2)	0 (0.0)	*** (0.0)
Hispanic	**1992**	57 (3.6)	201 (1.6)	42 (3.6)	201 (2.6)	1 (0.6)	194 (4.9)
	1990	68 (4.0)	202 (2.1)	32 (4.0)	193 (3.9)	0 (0.0)	*** (0.0)
Male	**1992**	56 (2.4)	219 (1.1)	44 (2.4)	221 (1.6)>	0 (0.4)	217 (2.8)
	1990	64 (3.4)	215 (1.7)	36 (3.4)	211 (2.0)	0 (0.0)	*** (0.0)
Female	**1992**	56 (2.4)	218 (1.5)	44 (2.4)	218 (1.3)	0 (0.2)	215 (4.6)
	1990	62 (3.6)	213 (1.4)	37 (3.6)	212 (2.5)	0 (0.1)	269 (**)
Grade 8							
Nation	**1992**	54 (2.7)	268 (1.3)	45 (2.7)	270 (1.5)	0 (0.3)	293 (5.3)>
	1900	58 (3.9)	264 (2.2)	40 (3.9)	264 (2.4)	2 (1.3)	254 (7.7)
White	**1992**	54 (2.9)	277 (1.2)	45 (2.9)	279 (1.5)>	0 (0.2)	295 (6.3)>
	1990	57 (4.6)	271 (2.4)	40 (4.7)	272 (2.4)	3 (1.8)	255 (8.5)
Black	**1992**	51 (5.6)	235 (1.9)	48 (5.6)	239 (2.6)	0 (0.2)	300 (**)
	1990	52 (6.4)	243 (4.2)	48 (6.4)	237 (5.2)	0 (0.0)	*** (0.0)
Hispanic	**1992**	57 (4.1)	247 (1.3)	42 (4.1)	248 (3.0)	1 (0.6)	248(13.7)
	1990	70 (4.8)	249 (3.2)	30 (4.8)	245 (2.9)	0 (0.3)	246 (4.9)
Male	**1992**	54 (2.7)	268 (1.5)	45 (2.7)	269 (1.9)	1 (0.3)	298 (6.6)>
	1990	58 (4.3)	264 (2.7)	41 (4.3)	266 (2.9)	1 (0.8)	255(12.4)
Female	**1992**	54 (2.9)	267 (1.3)	46 (2.9)	270 (1.7)>	0 (0.3)	288(10.2)
	1990	58 (3.9)	264 (2.2)	40 (3.8)	262 (2.3)	3 (1.8)	253 (5.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 11.10 | Teachers' Reports on Their Highest Academic Degree

PUBLIC SCHOOLS	Grade 4 - 1992					
	Bachelor's Degree		Master's or Specialist's Degree		Doctorate or Professional Degree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	53 (2.4)	217 (1.3)	47 (2.4)	219 (1.3)	0 (0.3)	*** (***)
Northeast	40 (6.1)	223 (3.3)	58 (5.9)	222 (3.2)	2 (1.5)	*** (***)
Southeast	51 (5.8)	206 (2.9)	49 (5.8)	210 (1.8)	0 (0.3)	*** (***)
Central	55 (4.2)	225 (2.2)	44 (4.2)	222 (2.4)	0 (0.3)	*** (***)
West	60 (3.6)	214 (1.6)	40 (3.6)	221 (2.8)	0 (0.0)	*** (***)
STATES						
Alabama	37 (3.0)	207 (2.6)	63 (3.0)	208 (1.7)	0 (0.0)	*** (***)
Arizona	60 (2.9)	213 (1.7)	40 (2.9)	216 (1.3)	0 (0.1)	*** (***)
Arkansas	70 (3.5)	209 (1.2)	30 (3.5)	209 (1.7)	0 (0.0)	*** (***)
California	71 (3.1)	208 (1.8)	28 (3.1)	205 (2.9)	1 (0.4)	*** (***)
Colorado	53 (3.1)	219 (1.7)	46 (3.1)	220 (1.4)	1 (0.5)	*** (***)
Connecticut	15 (2.3)	222 (3.6)	85 (2.3)	228 (1.3)	0 (0.3)	*** (***)
Delaware	65 (1.0)	215 (0.9)	35 (1.0)	221 (1.3)	0 (0.0)	*** (***)
Dist. Columbia	52 (1.0)	188 (1.0)	47 (1.0)	194 (1.1)	1 (0.2)	*** (***)
Florida	69 (2.6)	213 (2.1)	31 (2.7)	213 (1.9)	0 (0.2)	*** (***)
Georgia	53 (3.0)	212 (1.7)	47 (3.0)	216 (2.1)	0 (0.2)	*** (***)
Hawaii	62 (2.9)	213 (1.6)	35 (2.7)	214 (2.0)	2 (0.9)	*** (***)
Idaho	84 (2.3)	220 (1.1)	16 (2.3)	221 (2.0)	0 (0.0)	*** (***)
Indiana	19 (2.4)	218 (2.6)	81 (2.4)	220 (1.1)	0 (0.3)	*** (***)
Iowa	76 (3.0)	229 (1.1)	24 (3.0)	228 (2.5)	0 (0.0)	*** (***)
Kentucky	21 (2.7)	212 (2.0)	79 (2.7)	214 (1.3)	0 (0.0)	*** (***)
Louisiana	68 (3.3)	202 (1.7)	31 (3.2)	205 (3.0)	0 (0.0)	*** (***)
Maine	77 (3.4)	231 (1.1)	22 (3.4)	230 (2.4)	0 (0.4)	*** (***)
Maryland	48 (3.4)	215 (1.8)	52 (3.4)	219 (1.8)	0 (0.0)	*** (***)
Massachusetts	43 (3.0)	225 (1.8)	57 (3.0)	226 (1.6)	0 (0.1)	*** (***)
Michigan	44 (3.5)	218 (2.2)	56 (3.5)	221 (2.2)	0 (0.3)	*** (***)
Minnesota	66 (3.4)	225 (1.3)	34 (3.4)	232 (1.5)	0 (0.0)	*** (***)
Mississippi	54 (3.3)	200 (1.7)	46 (3.3)	200 (1.7)	0 (0.0)	*** (***)
Missouri	56 (3.6)	221 (1.6)	44 (3.6)	221 (1.7)	0 (0.0)	*** (***)
Nebraska	66 (3.4)	222 (1.5)	33 (3.4)	228 (2.0)	0 (0.3)	*** (***)
New Hampshire	69 (2.4)	228 (1.3)	30 (2.3)	232 (2.2)	1 (0.4)	*** (***)
New Jersey	66 (3.9)	223 (2.0)	33 (3.9)	231 (2.3)	1 (0.6)	*** (***)
New Mexico	60 (3.9)	210 (1.7)	40 (3.9)	214 (1.7)	0 (0.0)	*** (***)
New York	31 (3.4)	212 (3.2)	68 (3.3)	219 (1.4)	1 (0.5)	*** (***)
North Carolina	77 (2.4)	212 (1.2)	23 (2.4)	212 (2.1)	0 (0.0)	*** (***)
North Dakota	86 (3.2)	228 (0.9)	14 (3.1)	226 (2.1)!	0 (0.0)	*** (***)
Ohio	62 (2.8)	218 (1.5)	38 (2.8)	217 (1.9)	0 (0.0)	*** (***)
Oklahoma	61 (3.2)	218 (1.0)	39 (3.2)	221 (1.7)	0 (0.0)	*** (***)
Pennsylvania	43 (3.2)	223 (1.8)	56 (3.1)	224 (2.0)	1 (0.5)	*** (***)
Rhode Island	44 (2.8)	213 (2.3)	56 (2.8)	215 (1.9)	0 (0.0)	*** (***)
South Carolina	52 (2.9)	208 (1.5)	48 (2.9)	214 (1.6)	0 (0.0)	*** (***)
Tennessee	55 (3.0)	209 (1.8)	45 (3.0)	211 (1.9)	0 (0.0)	*** (***)
Texas	74 (2.6)	217 (1.6)	26 (2.6)	217 (2.5)	0 (0.0)	*** (***)
Utah	79 (2.7)	222 (1.0)	20 (2.7)	225 (2.2)	0 (0.0)	*** (***)
Virginia	72 (2.9)	220 (1.6)	28 (2.9)	220 (2.3)	0 (0.0)	*** (***)
West Virginia	49 (3.0)	214 (1.4)	51 (3.0)	214 (1.6)	0 (0.3)	*** (***)
Wisconsin	68 (3.3)	227 (1.2)	32 (3.3)	229 (2.1)	0 (0.0)	*** (***)
Wyoming	80 (2.9)	224 (1.0)	20 (2.9)	226 (1.7)	0 (0.2)	*** (***)
TERRITORY						
Guam	67 (1.3)	191 (1.4)	33 (1.3)	192 (1.1)	0 (0.0)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.10 | Teachers' Reports on Their Highest Academic Degree (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Bachelor's Degree		Master's or Specialist's Degree		Doctorate or Professional Degree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	53 (2.9)	266 (1.4)	46 (2.9)	268 (1.5)	0 (0.3)	*** (***)
Northeast	37 (5.5)	270 (5.3)	62 (5.4)	265 (3.4)	1 (0.6)	*** (***)
Southeast	59 (7.4)	259 (1.6)	41 (7.4)	262 (2.4)	0 (0.0)	*** (***)
Central	47 (5.6)	274 (2.6)	53 (5.6)	275 (4.0)	0 (0.0)	*** (***)
West	64 (4.5)	265 (2.4)	35 (4.2)	269 (2.5)	1 (0.9)	*** (***)
STATES						
Alabama	47 (3.6)	249 (1.8)	53 (3.6)	253 (3.0)	0 (0.0)	*** (***)
Arizona	55 (4.0)	264 (1.8)	44 (4.0)	265 (1.9)	1 (0.6)	*** (***)
Arkansas	68 (3.7)	255 (1.3)	32 (3.7)	257 (2.5)	0 (0.0)	*** (***)
California	61 (3.0)	260 (2.1)	39 (3.0)	262 (2.4)	0 (0.4)	*** (***)
Colorado	50 (3.1)	270 (1.9)	50 (3.1)	273 (1.5) >	1 (0.5)	*** (***)
Connecticut	15 (2.8)	266 (3.1)	85 (2.8)	275 (1.3) >	0 (0.2)	*** (***)
Delaware	53 (1.0) »	260 (1.1)	47 (1.0) <	264 (1.6)	0 (0.0)	*** (***)
Dist. Columbia	42 (1.0)	235 (1.3)	55 (1.1)	233 (1.3)	3 (0.6) «	*** (***)
Florida	66 (3.0) >	257 (1.7)	34 (3.0) <	264 (2.1)	0 (0.1)	*** (***)
Georgia	59 (3.1)	256 (1.5)	41 (3.1)	262 (2.2)	0 (0.2)	*** (***)
Hawaii	72 (0.9) »	258 (1.0) >	26 (0.9) «	254 (1.9) »	1 (0.2)	*** (***)
Idaho	74 (3.0)	276 (0.9) »	26 (3.0)	270 (1.6)	0 (0.0)	*** (***)
Indiana	22 (3.6)	264 (2.3)	77 (3.5)	271 (1.4)	0 (0.5)	*** (***)
Iowa	66 (4.0)	283 (1.2) >	34 (4.0)	282 (1.8)	0 (0.0)	*** (***)
Kentucky	35 (3.4)	261 (1.9)	65 (3.4)	262 (1.5) >	0 (0.1)	*** (***)
Louisiana	61 (3.7)	248 (1.9)	38 (3.6)	252 (2.8)	1 (0.6)	*** (***)
Maine	64 (3.6)	278 (1.1)	33 (3.5)	277 (2.4)	3 (1.7)	*** (***)
Maryland	41 (3.6)	265 (2.6)	59 (3.5)	265 (2.0)	0 (0.4)	*** (***)
Massachusetts	42 (3.3)	268 (1.6)	58 (3.3)	275 (1.6)	0 (0.1)	*** (***)
Michigan	42 (3.5)	267 (2.5)	57 (3.4)	267 (1.7)	1 (0.4)	*** (***)
Minnesota	58 (4.2)	282 (1.3) »	42 (4.2)	283 (1.8)	0 (0.0)	*** (***)
Mississippi	54 (4.0)	242 (1.5)	45 (3.9)	249 (2.7)	0 (0.0)	*** (***)
Missouri	51 (3.7)	269 (1.5)	49 (3.7)	273 (1.6)	0 (0.1)	*** (***)
Nebraska	54 (4.1) <	277 (1.5)	45 (4.3) >	278 (1.8)	1 (1.2)	*** (***)
New Hampshire	64 (3.7)	276 (1.1) >	36 (3.7)	281 (2.0)	0 (0.0)	*** (***)
New Jersey	60 (4.3)	270 (2.1)	40 (4.3)	273 (3.0)	0 (0.3)	*** (***)
New Mexico	59 (2.7)	260 (1.3)	41 (2.7)	258 (1.3) >	0 (0.0)	*** (***)
New York	25 (3.1)	265 (4.0)	74 (3.1)	266 (2.6)	1 (0.4)	*** (***)
North Carolina	65 (2.8)	258 (1.4) »	35 (2.8)	257 (1.7)	0 (0.1)	*** (***)
North Dakota	84 (2.1)	283 (1.4)	16 (2.1)	283 (1.7)	0 (0.0)	*** (***)
Ohio	52 (4.6)	266 (2.1)	48 (4.6)	271 (2.0)	0 (0.0)	*** (***)
Oklahoma	62 (3.8)	266 (1.6)	38 (3.8)	270 (1.9)	0 (0.4)	*** (***)
Pennsylvania	50 (3.2)	268 (1.9)	49 (3.1)	273 (2.0)	1 (0.7)	*** (***)
Rhode Island	50 (1.0)	265 (1.0) »	49 (1.0)	265 (1.1) >	1 (0.0)	*** (***)
South Carolina	49 (3.7)	258 (1.7)	51 (3.7)	263 (1.9)	0 (0.1)	*** (***)
Tennessee	41 (4.2)	256 (1.9)	56 (4.2)	259 (2.1)	3 (1.3)	*** (***)
Texas	65 (3.7)	264 (1.7) »	35 (3.6)	263 (2.3)	1 (0.6)	*** (***)
Utah	64 (2.5)	274 (1.0)	34 (2.3)	273 (1.6)	1 (0.5)	*** (***)
Virginia	68 (2.8)	266 (1.3)	32 (2.8)	269 (2.5)	0 (0.2)	*** (***)
West Virginia	56 (4.2)	258 (1.4)	44 (4.2)	259 (1.3)	0 (0.0)	*** (***)
Wisconsin	62 (4.7)	278 (2.3)	38 (4.7)	279 (2.1)	0 (0.0)	*** (***)
Wyoming	78 (2.5) >	275 (0.9)	22 (2.5) <	273 (2.2)	0 (0.0)	*** (***)
TERRITORIES						
Guam	79 (0.9)	231 (1.2)	21 (0.9)	248 (2.6) »	0 (0.0)	*** (***)
Virgin Islands	76 (0.5) »	217 (1.2)	23 (0.5) «	233 (1.8) >	0 (0.0)	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 11.10 | Teachers' Reports on Their Highest Academic Degree (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Bachelor's Degree		Master's or Specialist's Degree		Doctorate or Professional Degree	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	56 (4.2)	264 (2.4)	42 (4.2)	264 (2.5)	2 (1.4)	*** (***)
Northeast	46 (15.0)	270 (3.0)!	54 (15.0)	276 (5.3)!	0 (0.0)	*** (***)
Southeast	56 (8.2)	259 (5.3)	39 (8.4)	257 (4.8)!	5 (5.1)	*** (***)
Central	48 (9.1)	267 (4.1)!	48 (8.8)	261 (4.4)	4 (2.7)	*** (***)
West	68 (5.2)	262 (4.1)	32 (5.2)	264 (2.8)	0 (0.0)	*** (***)
STATES						
Alabama	52 (4.7)	254 (1.7)	48 (4.8)	252 (1.8)	0 (0.4)	*** (***)
Arizona	55 (2.8)	259 (1.9)	44 (2.8)	261 (1.7)	1 (0.4)	*** (***)
Arkansas	66 (3.9)	255 (1.0)	34 (3.9)	259 (2.1)	0 (0.1)	*** (***)
California	64 (3.3)	257 (1.7)	35 (3.2)	256 (2.6)	1 (0.6)	*** (***)
Colorado	50 (3.3)	266 (1.6)	49 (3.4)	267 (1.5)	1 (0.7)	*** (***)
Connecticut	17 (2.7)	273 (2.3)	82 (2.7)	269 (1.1)	1 (0.7)	*** (***)
Delaware	47 (1.1)	259 (1.4)	52 (1.1)	265 (1.2)	2 (0.0)	*** (***)
Dist. Columbia	40 (1.0)	231 (1.4)	54 (1.1)	231 (1.1)	6 (0.4)	233 (2.8)
Florida	55 (3.1)	254 (1.8)	45 (3.2)	259 (1.4)	0 (0.3)	*** (***)
Georgia	54 (3.6)	254 (1.7)	46 (3.6)	262 (1.9)	0 (0.0)	*** (***)
Hawaii	67 (0.8)	255 (0.9)	31 (0.7)	245 (1.6)	2 (0.4)	*** (***)
Idaho	73 (1.9)	271 (1.0)	27 (1.9)	273 (1.7)	0 (0.0)	*** (***)
Indiana	18 (3.1)	265 (2.6)	81 (3.1)	269 (1.3)	0 (0.4)	*** (***)
Iowa	64 (3.9)	278 (1.5)	36 (3.9)	278 (1.8)	0 (0.0)	*** (***)
Kentucky	25 (3.5)	258 (1.8)	74 (3.6)	257 (1.4)	1 (0.6)	*** (***)
Louisiana	61 (4.5)	246 (1.5)	35 (3.9)	246 (2.6)	4 (1.9)	250 (7.1)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	41 (3.6)	258 (1.9)	59 (3.6)	264 (2.1)	0 (0.1)	*** (***)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	36 (3.4)	266 (1.9)	64 (3.4)	263 (1.7)	0 (0.0)	*** (***)
Minnesota	56 (3.4)	273 (1.2)	44 (3.4)	279 (1.5)	0 (0.0)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	67 (2.6)	276 (1.4)	33 (2.6)	276 (1.4)	0 (0.0)	*** (***)
New Hampshire	65 (1.4)	271 (1.1)	34 (1.4)	277 (1.7)	1 (0.1)	*** (***)
New Jersey	61 (3.9)	266 (1.9)	37 (4.2)	275 (2.2)	1 (0.8)	*** (***)
New Mexico	54 (1.2)	259 (1.1)	46 (1.2)	255 (0.9)	0 (0.0)	*** (***)
New York	31 (3.3)	257 (3.1)	68 (3.3)	261 (1.6)	2 (0.8)	*** (***)
North Carolina	65 (2.9)	250 (1.4)	35 (2.9)	252 (2.1)	0 (0.0)	*** (***)
North Dakota	81 (1.9)	281 (1.5)	19 (1.9)	284 (2.0)	0 (0.0)	*** (***)
Ohio	49 (4.2)	262 (1.7)	51 (4.2)	266 (1.7)	0 (0.0)	*** (***)
Oklahoma	60 (3.8)	263 (1.6)	40 (3.7)	266 (2.1)	1 (0.7)	*** (***)
Pennsylvania	53 (3.6)	264 (2.5)	45 (3.5)	269 (2.1)	1 (0.7)	*** (***)
Rhode Island	52 (1.1)	260 (0.8)	48 (1.1)	261 (1.0)	0 (0.0)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	62 (3.3)	254 (1.9)	38 (3.3)	258 (2.4)	0 (0.0)	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	68 (2.5)	262 (1.8)	31 (2.6)	268 (2.5)	0 (0.2)	*** (***)
West Virginia	57 (3.5)	255 (1.1)	43 (3.5)	258 (1.5)	0 (0.0)	*** (***)
Wisconsin	56 (4.3)	272 (1.6)	44 (4.4)	280 (1.9)	0 (0.3)	*** (***)
Wyoming	70 (0.9)	275 (0.8)	30 (0.9)	268 (1.2)	0 (0.0)	*** (***)
TERRITORIES						
Guam	80 (0.6)	231 (0.8)	20 (0.6)	234 (2.0)	0 (0.0)	*** (***)
Virgin Islands	63 (0.9)	216 (1.3)	37 (0.9)	226 (1.2)	0 (0.0)	*** (***)

TABLE 11.11 Teachers' Reports on Their Undergraduate and Graduate Majors, Grades 4 and 8

	Undergraduate Major							
	Undergraduate Major in Mathematics		Undergraduate Major in Mathematics Education		Undergraduate Major in Education		Other Undergraduate Major	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	6 (1.0)	219 (4.1)	2 (0.5)	231 (6.2)	81 (1.4)	219 (0.9)	12 (1.2)	217 (2.0)
Grade 8	43 (2.6)	274 (1.6)	15 (1.8)	270 (2.4)	29 (2.5)	263 (2.0)	13 (1.2)	262 (2.6)

	Graduate Major							
	Graduate Major in Mathematics		Graduate Major in Mathematics Education		Graduate Major in Education		Other Graduate Major or No Graduate Study	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	2 (0.8)	220 (5.7)	4 (0.9)	226 (6.2)	81 (2.1)	220 (1.0)	13 (1.4)	217 (2.3)
Grade 8	21 (2.4)	273 (3.0)	19 (2.1)	274 (2.9)	47 (3.6)	268 (2.0)	13 (1.7)	264 (3.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percents may not total 100 percent due to rounding error.

TABLE 11.12 | Teachers' Reports on Their Undergraduate Major

PUBLIC SCHOOLS	Grade 4 - 1992							
	Undergraduate Major in Mathematics		Undergraduate Major in Mathematics Education		Undergraduate Major in Education		Other Undergraduate Major	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	5 (1.0)	217 (5.0)	2 (0.6)	231 (6.2)!	82 (1.5)	218 (1.0)	11 (1.3)	214 (2.4)
Northeast	5 (1.7)	*** (***)	3 (2.0)	*** (***)	77 (4.6)	222 (2.4)	15 (4.6)	222 (5.9)!
Southeast	5 (2.2)	211 (3.6)!	1 (0.7)	*** (***)	89 (2.8)	207 (2.0)	5 (1.7)	208 (7.2)!
Central	6 (1.5)	223(10.4)!	1 (0.8)	*** (***)	90 (2.1)	224 (2.0)	3 (1.6)	*** (***)
West	4 (2.1)	215 (5.8)!	1 (1.0)	*** (***)	73 (2.4)	218 (2.0)	21 (2.1)	214 (2.8)
STATES								
Alabama	6 (2.1)	201 (4.6)!	1 (0.5)	*** (***)	90 (2.4)	208 (1.7)	3 (1.1)	211 (5.2)!
Arizona	6 (1.4)	211 (5.0)!	1 (0.7)	*** (***)	81 (2.4)	214 (1.2)	11 (2.0)	212 (2.7)
Arkansas	4 (1.6)	203 (4.7)!	1 (0.7)	*** (***)	90 (2.4)	209 (0.9)	5 (1.7)	213 (4.7)!
California	5 (1.7)	211 (4.9)!	1 (0.8)	*** (***)	51 (2.9)	209 (1.8)	43 (3.2)	204 (2.5)
Colorado	5 (1.2)	226 (5.6)!	2 (0.7)	*** (***)	81 (2.3)	220 (1.1)	12 (2.1)	217 (3.6)
Connecticut	3 (0.8)	230 (6.5)!	1 (0.7)	*** (***)	82 (2.4)	227 (1.3)	14 (2.1)	221 (3.3)
Delaware	4 (0.3)	225 (5.3)	2 (0.3)	*** (***)	90 (0.6)	217 (0.8)	5 (0.3)	209 (3.5)
Dist. Columbia	4 (0.4)	188 (2.8)	1 (0.0)	*** (***)	87 (0.5)	190 (0.7)	8 (0.4)	197 (2.9)
Florida	2 (0.7)	*** (***)	1 (0.4)	*** (***)	90 (1.8)	213 (1.6)	7 (1.6)	211 (4.3)!
Georgia	5 (1.4)	208 (5.5)!	2 (0.6)	*** (***)	86 (2.1)	214 (1.3)	7 (1.4)	215 (3.0)
Hawaii	6 (1.4)	213 (3.7)!	1 (0.6)	*** (***)	79 (2.4)	213 (1.6)	14 (2.2)	215 (2.7)
Idaho	6 (1.3)	222 (3.2)!	4 (1.2)	224 (3.9)!	84 (2.1)	220 (1.2)	6 (1.5)	216 (2.5)!
Indiana	3 (1.3)	217 (6.0)!	3 (1.0)	220 (2.8)!	93 (1.7)	219 (1.2)	1 (0.6)	*** (***)
Iowa	4 (1.5)	230 (4.5)!	4 (1.5)	235 (6.5)!	87 (2.4)	228 (1.2)	5 (1.5)	235 (4.0)!
Kentucky	2 (0.7)	*** (***)	1 (0.9)	*** (***)	95 (1.4)	214 (1.1)	2 (0.8)	*** (***)
Louisiana	5 (1.9)	212 (6.0)!	2 (1.2)	*** (***)	89 (2.4)	203 (1.7)	4 (1.3)	189 (5.4)!
Maine	2 (0.7)	*** (***)	1 (0.7)	*** (***)	82 (2.7)	230 (1.1)	14 (2.6)	233 (2.4)
Maryland	4 (1.3)	216 (7.2)!	1 (0.5)	*** (***)	89 (1.9)	217 (1.3)	6 (1.3)	208 (6.0)!
Massachusetts	3 (1.1)	218 (6.9)!	2 (0.8)	*** (***)	79 (2.7)	226 (1.4)	16 (2.2)	223 (3.3)
Michigan	15 (3.2)	217 (5.1)!	2 (1.1)	*** (***)	70 (3.6)	222 (1.7)	13 (2.1)	213 (6.5)
Minnesota	3 (1.2)	228 (3.4)!	1 (0.7)	*** (***)	94 (1.7)	227 (1.1)	2 (1.0)	*** (***)
Mississippi	5 (1.4)	192 (3.9)!	2 (1.1)	*** (***)	91 (1.9)	200 (1.3)	2 (0.8)	202 (6.8)!
Missouri	3 (1.0)	215 (7.9)!	2 (0.7)	*** (***)	90 (1.4)	221 (1.4)	5 (1.4)	228 (5.1)!
Nebraska	3 (0.8)	224 (5.9)!	0 (0.2)	*** (***)	93 (1.7)	224 (1.4)	4 (1.6)	232 (6.0)!
New Hampshire	5 (1.5)	230 (3.3)!	1 (0.6)	*** (***)	80 (2.3)	229 (1.3)	13 (1.8)	227 (2.3)
New Jersey	5 (1.4)	225 (6.4)!	0 (0.0)	*** (***)	84 (2.5)	227 (1.6)	10 (2.2)	221 (6.2)!
New Mexico	7 (2.1)	214 (3.9)!	1 (0.8)	*** (***)	83 (3.0)	211 (1.5)	9 (1.8)	215 (5.2)!
New York	4 (1.2)	217 (6.8)!	1 (0.8)	*** (***)	72 (2.9)	218 (1.5)	22 (2.5)	213 (3.0)
North Carolina	4 (1.2)	218 (3.0)!	1 (0.6)	*** (***)	90 (1.7)	212 (1.1)	5 (1.1)	206 (3.1)!
North Dakota	6 (2.4)	230 (2.3)!	1 (0.3)	*** (***)	91 (2.6)	228 (0.8)	3 (1.2)	*** (***)
Ohio	4 (1.5)	223 (4.9)!	1 (0.5)	*** (***)	92 (2.1)	217 (1.3)	4 (1.1)	210 (9.0)!
Oklahoma	9 (2.6)	217 (3.2)!	1 (0.5)	*** (***)	86 (2.8)	220 (1.1)	3 (0.8)	217 (2.9)!
Pennsylvania	5 (1.6)	227 (4.9)	3 (1.2)	224 (6.5)!	85 (2.5)	224 (1.4)	8 (1.6)	219 (4.7)!
Rhode Island	5 (1.3)	201 (4.4)!	1 (0.5)	*** (***)	79 (2.5)	214 (1.7)	15 (2.2)	218 (3.7)
South Carolina	2 (0.6)	*** (***)	1 (0.9)	*** (***)	90 (1.5)	212 (1.1)	6 (1.0)	210 (4.8)
Tennessee	4 (0.7)	203 (6.4)!	2 (1.0)	*** (***)	87 (1.9)	210 (1.4)	7 (1.6)	210 (3.4)!
Texas	10 (2.3)	220 (4.5)!	2 (0.7)	*** (***)	74 (3.1)	218 (1.4)	14 (2.5)	208 (4.4)
Utah	7 (1.7)	229 (3.8)!	1 (0.4)	*** (***)	86 (2.1)	222 (1.0)	6 (1.3)	221 (3.1)!
Virginia	2 (0.8)	*** (***)	2 (1.3)	*** (***)	88 (2.1)	219 (1.5)	8 (1.6)	222 (4.6)!
West Virginia	5 (1.4)	213 (2.8)!	3 (1.4)	220 (6.3)!	86 (2.7)	213 (1.2)	6 (1.7)	213 (4.7)!
Wisconsin	2 (0.9)	*** (***)	1 (0.4)	*** (***)	95 (1.4)	228 (0.9)	2 (1.0)	225(16.7)!
Wyoming	3 (0.9)	*** (***)	3 (1.2)	232 (4.2)!	89 (2.2)	224 (1.0)	5 (1.5)	224 (4.3)!
TERRITORY								
Guam	8 (0.6)	191 (2.6)	0 (0.0)	*** (***)	84 (1.0)	192 (0.9)	8 (0.8)	183 (3.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.12 | Teachers' Reports on Their Undergraduate Major (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Undergraduate Major in Mathematics		Undergraduate Major in Mathematics Education		Undergraduate Major in Education		Other Undergraduate Major	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	45 (2.9)	273 (1.7)	16 (2.1)	269 (2.5)	27 (2.8)	260 (2.3)	12 (1.2)	257 (2.7)
Northeast	50 (7.0)	272 (5.2)	12 (2.1)	278 (4.6)!	29 (7.1)	259 (7.1)!	9 (1.7)	254 (6.6)
Southeast	34 (5.4)	267 (3.0)	17 (3.7)	260 (3.6)!	38 (5.3)	259 (1.9)	11 (2.4)	247 (4.9)!
Central	53 (5.8)	281 (2.5)	19 (3.9)	270 (6.3)!	18 (4.7)	262 (6.2)!	10 (3.0)	272 (4.6)!
West	45 (5.4)	271 (2.5)	15 (4.9)	273 (3.3)!	25 (5.3)	261 (5.6)!	15 (2.8)	257 (4.2)
STATES								
Alabama	51 (4.4)	254 (2.4)	22 (3.6)	255 (2.9)	20 (4.0)	239 (3.1)!	6 (1.8)	258 (7.9)!
Arizona	20 (2.5)	267 (3.3)	9 (2.3)	264 (3.3)!	54 (3.4)	264 (1.8)	17 (2.8)	262 (2.8)
Arkansas	49 (3.6)	257 (1.9)	25 (3.1)	260 (2.5)	17 (2.4)	247 (3.4)	10 (2.2)	254 (4.5)!
California	30 (3.3)	267 (3.6)	7 (1.6)	268 (3.0)!	27 (3.3)	261 (3.1)	37 (3.0)	254 (2.9)
Colorado	50 (2.8)	274 (1.5)	14 (2.0)	273 (2.6)	24 (2.9)	268 (2.2)	12 (2.1)	268 (3.0)
Connecticut	43 (3.4)	279 (2.3)	14 (2.4)	277 (4.4)	26 (3.1)	264 (3.1)	18 (2.6)	270 (3.7)
Delaware	29 (0.5)	265 (1.5)	25 (0.9)	265 (1.5)	23 (0.8)	252 (2.3)	22 (0.7)	265 (2.0)
Dist. Columbia	63 (1.1)	236 (1.2)	17 (0.9)	228 (1.6)	12 (0.7)	232 (2.8)	8 (0.7)	239 (5.3)
Florida	37 (2.8)	260 (2.4)	19 (3.1)	262 (3.2)	27 (3.4)	257 (3.0)	17 (2.3)	257 (2.8)
Georgia	28 (2.9)	261 (2.8)	19 (2.8)	258 (2.8)	42 (3.7)	258 (2.2)	11 (1.7)	255 (2.9)
Hawaii	47 (0.9)	263 (1.2)	22 (0.7)	264 (1.8)	23 (0.8)	243 (1.7)	8 (0.4)	243 (2.2)
Idaho	37 (2.8)	277 (1.5)	16 (2.0)	276 (2.2)	36 (3.1)	270 (1.4)	10 (2.0)	277 (2.9)
Indiana	51 (3.4)	272 (1.6)	27 (3.4)	269 (2.2)	16 (2.1)	260 (2.4)	7 (1.9)	272 (5.7)!
Iowa	54 (4.1)	284 (1.4)	19 (2.8)	285 (2.9)	23 (3.4)	279 (2.0)	4 (0.8)	284 (4.4)!
Kentucky	36 (3.2)	269 (2.1)	17 (2.5)	267 (2.9)	42 (3.6)	255 (1.8)	6 (1.7)	255 (4.6)!
Louisiana	19 (2.5)	253 (3.6)	29 (3.0)	251 (3.1)	47 (3.7)	247 (1.9)	4 (1.2)	247(10.1)!
Maine	44 (4.0)	283 (1.4)	13 (2.4)	281 (3.4)	31 (3.7)	273 (2.0)	12 (2.4)	270 (3.3)!
Maryland	46 (3.6)	268 (2.2)	19 (3.2)	265 (3.7)	27 (3.6)	259 (2.6)	8 (2.0)	266 (6.5)!
Massachusetts	54 (3.1)	275 (1.7)	10 (1.7)	276 (4.8)	20 (2.5)	265 (3.7)	17 (2.7)	270 (3.9)
Michigan	48 (3.2)	274 (2.5)	11 (2.6)	269 (5.9)!	33 (3.2)	256 (1.9)	8 (1.6)	267 (4.6)
Minnesota	61 (3.2)	283 (1.3)	32 (2.8)	282 (1.9)	6 (1.9)	273 (4.1)!	2 (1.1)	*** (***)
Mississippi	39 (3.9)	246 (2.4)	21 (3.5)	248 (2.6)	36 (3.4)	243 (2.2)	4 (1.5)	246(11.4)!
Missouri	42 (3.7)	272 (2.1)	32 (2.6)	274 (1.2)	19 (3.1)	262 (2.6)	8 (1.9)	272 (3.6)!
Nebraska	55 (3.8)	275 (1.3)	33 (3.6)	280 (2.2)	11 (2.3)	276 (4.0)!	2 (1.1)	*** (***)
New Hampshire	44 (4.1)	280 (1.1)	15 (2.3)	274 (1.9)	23 (3.4)	277 (2.0)	18 (3.0)	275 (3.6)
New Jersey	35 (4.0)	279 (2.5)	13 (2.6)	281 (3.4)	41 (3.3)	263 (2.7)	10 (2.0)	264 (4.8)!
New Mexico	49 (3.1)	262 (1.6)	10 (1.8)	265 (2.1)	33 (3.1)	254 (1.4)	7 (1.6)	259 (4.1)!
New York	55 (3.3)	269 (2.4)	15 (2.9)	272 (4.2)	12 (2.5)	256 (5.8)!	18 (2.9)	255 (5.3)
North Carolina	39 (3.6)	263 (2.0)	25 (3.4)	259 (2.3)	26 (2.8)	251 (2.1)	10 (1.8)	250 (3.0)
North Dakota	58 (4.3)	284 (1.4)	21 (3.8)	280 (2.4)	20 (2.9)	282 (1.8)	1 (0.7)	*** (***)
Ohio	36 (4.0)	267 (3.1)	21 (4.4)	271 (5.0)!	32 (3.8)	269 (2.3)	11 (3.6)	265 (4.9)!
Oklahoma	39 (4.0)	270 (1.8)	28 (3.6)	268 (2.2)	31 (4.1)	263 (2.3)	2 (0.8)	*** (***)
Pennsylvania	57 (3.8)	276 (1.8)	29 (3.5)	271 (2.1)	10 (2.0)	255 (5.4)!	4 (1.3)	237 (6.7)!
Rhode Island	66 (0.8)	267 (0.8)	10 (0.6)	263 (2.4)	17 (0.6)	259 (2.1)	7 (0.6)	263 (2.6)
South Carolina	40 (3.2)	267 (2.1)	18 (2.6)	264 (2.5)	32 (2.6)	252 (1.9)	10 (2.2)	254 (4.7)!
Tennessee	33 (3.9)	262 (2.9)	13 (2.7)	261 (3.4)!	43 (4.1)	255 (1.7)	10 (2.2)	257 (3.5)!
Texas	60 (3.0)	268 (1.6)	13 (2.4)	263 (3.8)	16 (2.3)	258 (3.6)	11 (1.8)	252 (3.5)
Utah	36 (2.4)	275 (1.5)	21 (2.1)	276 (1.7)	28 (2.3)	271 (1.4)	15 (1.9)	273 (2.7)
Virginia	51 (3.0)	273 (1.7)	18 (2.4)	261 (2.4)	19 (2.5)	261 (3.1)	11 (1.7)	261 (3.7)
West Virginia	45 (3.9)	261 (1.3)	37 (3.7)	258 (1.7)	16 (2.7)	253 (2.3)	2 (0.8)	*** (***)
Wisconsin	36 (3.8)	282 (1.3)	27 (4.9)	283 (3.3)!	33 (3.7)	270 (2.3)	3 (1.2)	278 (5.3)!
Wyoming	44 (2.5)	276 (1.6)	34 (2.6)	275 (1.3)	14 (1.7)	269 (2.3)	8 (1.2)	274 (2.6)
TERRITORIES								
Guam	43 (1.4)	242 (1.8)	20 (1.1)	222 (2.6)	24 (1.2)	237 (2.1)	13 (0.7)	226 (2.5)
Virgin Islands	51 (0.6)	224 (1.4)	5 (0.4)	237 (4.1)	7 (0.7)	219 (3.7)	37 (0.8)	214 (1.7)

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TABLE 11.13 | Teachers' Reports on Their Graduate Major

	Grade 4 - 1992							
	Graduate Major in Mathematics		Graduate Major in Mathematics Education		Graduate Major in Education		Other Graduate Major or No Graduate Study	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	2 (0.7)	215 (8.1)!	3 (0.9)	224 (8.3)!	82 (2.3)	219 (1.1)	13 (1.6)	216 (2.5)
Northeast	0 (0.0)	*** (***)	2 (1.9)	*** (***)	79 (5.4)	226 (2.1)	19 (5.1)	218 (4.1)!
Southeast	4 (2.5)	*** (***)	3 (2.1)	*** (***)	84 (4.6)	207 (2.2)	9 (2.7)	206 (5.3)!
Central	1 (1.2)	*** (***)	1 (1.0)	*** (***)	85 (4.0)	225 (2.0)	12 (3.1)	219 (6.2)!
West	2 (1.0)	*** (***)	5 (2.2)	*** (***)	79 (4.7)	218 (2.6)	13 (2.4)	218 (3.1)
STATES								
Alabama	3 (1.1)	*** (***)	1 (0.8)	*** (***)	92 (1.9)	208 (1.6)	3 (1.4)	211 (5.2)!
Arizona	2 (0.9)	*** (***)	3 (0.8)	*** (***)	79 (2.3)	214 (1.2)	16 (2.2)	215 (2.7)
Arkansas	2 (1.7)	*** (***)	1 (0.7)	*** (***)	88 (2.3)	209 (1.2)	9 (1.9)	207 (2.8)!
California	2 (0.8)	*** (***)	3 (1.1)	207 (5.6)!	81 (2.6)	206 (1.7)	14 (2.3)	208 (3.3)
Colorado	3 (1.0)	217 (4.6)!	2 (0.7)	*** (***)	76 (2.7)	219 (1.4)	19 (2.5)	220 (2.5)
Connecticut	2 (0.9)	*** (***)	2 (0.7)	*** (***)	78 (2.8)	227 (1.5)	18 (2.7)	229 (2.5)
Delaware	2 (0.6)	*** (***)	3 (0.4)	*** (***)	84 (1.0)	219 (1.1)	10 (0.7)	218 (3.8)
Dist. Columbia	9 (0.3)	198 (2.7)	8 (0.5)	184 (2.2)	62 (0.9)	188 (0.7)	21 (0.9)	197 (1.9)
Florida	3 (1.2)	*** (***)	2 (0.7)	*** (***)	80 (3.0)	212 (1.8)	16 (2.8)	206 (3.6)
Georgia	3 (1.2)	*** (***)	4 (1.6)	198 (8.9)!	88 (2.2)	216 (1.7)	5 (1.2)	208 (5.4)!
Hawaii	3 (1.1)	*** (***)	2 (0.9)	*** (***)	85 (2.1)	214 (1.7)	10 (1.9)	207 (2.5)
Idaho	4 (1.3)	221 (3.5)!	5 (1.5)	225 (3.7)!	81 (2.9)	220 (1.2)	9 (2.2)	221 (2.4)!
Indiana	1 (0.7)	*** (***)	1 (0.9)	*** (***)	95 (1.2)	219 (1.1)	2 (1.1)	*** (***)
Iowa	6 (1.8)	232 (2.6)!	8 (2.6)	237 (3.3)!	71 (3.9)	229 (1.6)	15 (2.8)	226 (2.7)!
Kentucky	0 (0.3)	*** (***)	1 (1.0)	*** (***)	93 (1.6)	214 (1.2)	5 (1.2)	216 (3.2)!
Louisiana	4 (1.5)	204 (3.9)!	2 (1.7)	*** (***)	85 (2.0)	204 (2.1)	8 (1.4)	200 (4.0)
Maine	4 (1.7)	*** (***)	1 (0.5)	*** (***)	77 (4.6)	231 (1.8)	18 (4.1)	228 (2.8)!
Maryland	3 (1.2)	209 (7.2)!	3 (1.2)	217 (5.9)!	73 (3.2)	216 (1.6)	20 (2.9)	220 (3.2)
Massachusetts	4 (1.4)	222 (7.0)!	2 (1.0)	*** (***)	80 (2.9)	228 (1.5)	14 (2.6)	218 (4.1)!
Michigan	4 (1.5)	211(16.8)!	3 (1.4)	*** (***)	70 (3.7)	221 (2.0)	23 (3.4)	219 (4.1)
Minnesota	3 (1.2)	*** (***)	2 (0.9)	*** (***)	87 (2.3)	229 (1.0)	9 (2.0)	220 (4.9)!
Mississippi	3 (1.7)	*** (***)	1 (0.5)	*** (***)	94 (2.0)	200 (1.4)	2 (0.9)	*** (***)
Missouri	4 (1.6)	224 (4.2)!	3 (1.3)	*** (***)	77 (3.3)	221 (1.4)	15 (3.2)	218 (3.5)!
Nebraska	3 (1.3)	*** (***)	2 (0.9)	*** (***)	85 (2.5)	226 (1.5)	10 (2.3)	222 (3.7)!
New Hampshire	3 (1.6)	*** (***)	6 (1.8)	231 (2.8)!	78 (3.7)	229 (1.8)	14 (3.1)	231 (3.2)!
New Jersey	3 (1.5)	*** (***)	1 (0.5)	*** (***)	65 (4.3)	226 (2.3)	31 (3.9)	229 (3.6)
New Mexico	3 (1.5)	*** (***)	1 (0.9)	*** (***)	86 (2.7)	212 (1.7)	10 (2.2)	206 (4.5)!
New York	2 (1.0)	*** (***)	2 (0.6)	*** (***)	82 (2.3)	218 (1.3)	15 (1.9)	209 (3.7)
North Carolina	4 (1.7)	*** (***)	3 (1.5)	*** (***)	74 (4.2)	211 (1.9)	19 (4.0)	213 (3.3)!
North Dakota	7 (2.5)	233 (3.6)!	1 (0.7)	*** (***)	85 (3.2)	228 (1.1)	7 (2.1)	226 (2.7)!
Ohio	2 (0.8)	*** (***)	3 (1.3)	218 (9.6)!	85 (2.4)	217 (1.4)	10 (2.0)	221 (4.9)
Oklahoma	1 (0.8)	*** (***)	1 (0.6)	*** (***)	87 (2.4)	220 (1.3)	11 (2.1)	215 (3.1)
Pennsylvania	2 (0.6)	*** (***)	1 (0.4)	*** (***)	89 (1.8)	225 (1.5)	8 (1.7)	217 (4.5)!
Rhode Island	2 (1.0)	*** (***)	3 (1.2)	*** (***)	79 (2.4)	213 (1.8)	16 (2.2)	219 (4.1)
South Carolina	3 (1.5)	200 (9.8)!	1 (0.7)	*** (***)	86 (2.2)	212 (1.3)	10 (1.9)	208 (3.4)!
Tennessee	1 (0.7)	*** (***)	3 (1.5)	*** (***)	77 (3.2)	210 (1.6)	19 (2.8)	209 (2.7)
Texas	6 (2.0)	218 (5.9)!	1 (0.5)	*** (***)	73 (3.5)	217 (2.0)	20 (3.4)	214 (4.5)
Utah	7 (1.9)	224 (3.6)!	4 (1.1)	226 (6.3)!	81 (2.7)	224 (1.5)	8 (1.9)	222 (3.0)!
Virginia	2 (0.9)	*** (***)	3 (1.2)	*** (***)	75 (3.7)	220 (2.3)	20 (3.0)	220 (4.3)
West Virginia	1 (0.5)	*** (***)	1 (0.7)	*** (***)	78 (2.8)	213 (1.4)	20 (2.7)	215 (2.1)
Wisconsin	3 (1.7)	*** (***)	2 (0.9)	*** (***)	81 (3.1)	229 (1.3)	14 (2.6)	222 (3.3)
Wyoming	6 (1.6)	226 (3.2)!	4 (1.7)	224 (3.7)!	77 (3.2)	224 (1.3)	13 (2.8)	227 (2.0)!
TERRITORY								
Guam	5 (0.6)	187 (4.0)	1 (0.1)	*** (***)	81 (1.4)	195 (1.1)	13 (1.2)	189 (3.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.13 | Teachers' Reports on Their Graduate Major (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Graduate Major in Mathematics		Graduate Major in Mathematics Education		Graduate Major in Education		Other Graduate Major or No Graduate Study	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (2.7)	272 (3.2)	19 (2.4)	273 (3.3)	46 (4.0)	267 (2.2)	13 (1.9)	260 (3.4)
Northeast	20 (5.3)	265 (5.6)!	24 (4.9)	277 (6.9)!	44 (9.1)	267 (7.0)!	13 (3.9)	256 (8.6)!
Southeast	21 (8.4)	261 (6.7)!	22 (6.2)	267 (6.5)!	50 (9.1)	261 (2.4)!	7 (5.2)	237 (3.6)!
Central	23 (4.2)	285 (4.5)	18 (5.5)	269 (7.3)!	43 (6.2)	274 (4.2)	16 (2.0)	266 (5.9)
West	21 (4.3)	272 (6.1)!	16 (3.1)	279 (5.0)	48 (7.2)	265 (3.0)	16 (3.5)	267 (4.1)!
STATES								
Alabama	31 (4.5)	254 (3.4)	26 (4.4)	261 (3.8)	38 (5.3)	248 (4.5)	5 (1.8)	247 (9.3)!
Arizona	18 (3.3)	264 (2.6)	13 (2.4)	268 (3.6)	44 (3.5)	263 (2.3)	26 (3.4)	263 (2.3)
Arkansas	28 (4.3)	260 (2.9)	28 (3.2)	263 (2.7)	32 (4.6)	250 (3.1)	12 (2.7)	253 (4.2)!
California	18 (2.6)	270 (4.6)	11 (2.4)	270 (5.3)!	53 (4.0)	260 (2.2)	18 (2.5)	253 (3.1)
Colorado	22 (3.0)	272 (2.7)	22 (3.0)	272 (2.6)	39 (4.1)	270 (2.1)	17 (3.3)	273 (3.4)
Connecticut	23 (3.2)	275 (4.1)	20 (3.0)	279 (2.4)	43 (3.6)	270 (2.4)	13 (2.3)	275 (2.9)
Delaware	13 (1.0)	268 (3.1)	28 (0.9)	268 (2.0)	35 (0.9)	260 (2.1)	24 (1.1)	261 (2.2)
Dist. Columbia	26 (1.1)	231 (2.2)	22 (1.0)	235 (2.3)	30 (1.3)	240 (1.8)	22 (1.2)	235 (2.8)
Florida	19 (2.9)	264 (3.9)	18 (3.1)	270 (3.9)	38 (3.8)	259 (3.0)	24 (3.6)	257 (3.4)
Georgia	17 (3.2)	262 (3.9)	31 (3.7)	263 (2.9)	43 (3.6)	256 (2.2)	9 (1.9)	248 (4.3)!
Hawaii	20 (1.0)	261 (2.4)	31 (1.1)	264 (1.7)	35 (1.2)	249 (1.5)	14 (0.8)	246 (2.3)
Idaho	16 (2.6)	279 (3.1)	19 (3.2)	274 (2.4)	51 (3.9)	272 (1.8)	13 (2.7)	274 (1.9)!
Indiana	30 (4.0)	274 (2.4)	24 (4.2)	268 (2.3)	37 (3.9)	269 (2.4)	8 (2.3)	273 (5.1)!
Iowa	28 (4.4)	284 (1.9)	23 (4.1)	283 (2.9)	39 (4.7)	281 (1.8)	10 (2.6)	286 (3.4)!
Kentucky	14 (3.0)	269 (5.2)!	16 (3.2)	270 (3.6)	63 (3.8)	258 (1.5)	7 (1.5)	261 (3.5)!
Louisiana	19 (3.6)	244 (4.5)	17 (3.3)	256 (4.7)	48 (4.5)	248 (2.7)	15 (3.3)	250 (4.5)!
Maine	29 (5.8)	279 (3.1)!	11 (3.0)	277 (3.2)!	45 (6.1)	279 (2.5)	15 (3.8)	273 (7.2)!
Maryland	23 (2.8)	270 (3.3)	16 (2.5)	262 (4.4)	46 (3.1)	264 (2.2)	15 (2.5)	262 (4.6)
Massachusetts	27 (4.1)	275 (3.0)	13 (2.7)	281 (3.7)!	43 (3.9)	272 (2.3)	16 (3.3)	261 (3.7)!
Michigan	21 (3.9)	262 (4.7)	22 (3.0)	269 (4.1)	40 (3.4)	267 (2.7)	17 (2.6)	267 (3.5)
Minnesota	33 (3.7)	281 (2.5)	31 (3.1)	287 (2.2)	22 (2.9)	281 (2.7)	13 (3.3)	276 (3.1)!
Mississippi	16 (3.0)	245 (4.1)	29 (4.4)	248 (4.1)	48 (4.7)	246 (2.9)	6 (2.1)	241 (3.6)!
Missouri	18 (3.9)	270 (2.9)!	27 (3.7)	278 (1.9)	36 (4.1)	266 (2.2)	19 (2.8)	271 (2.8)
Nebraska	31 (4.4)	278 (2.0)	28 (4.3)	276 (2.4)	29 (4.2)	279 (2.1)	11 (2.4)	278 (3.2)!
New Hampshire	35 (4.6)	279 (2.0)	27 (4.3)	276 (2.1)	28 (4.1)	279 (2.6)	10 (2.9)	278 (5.1)!
New Jersey	19 (4.0)	284 (4.6)!	20 (4.3)	272 (5.7)!	47 (5.2)	265 (3.4)	14 (2.9)	270 (5.2)!
New Mexico	22 (3.1)	264 (1.9)	16 (2.5)	259 (2.1)	45 (3.7)	255 (1.7)	17 (2.3)	259 (2.8)
New York	29 (3.4)	270 (2.7)	29 (3.7)	266 (3.7)	34 (3.9)	264 (3.7)	8 (1.6)	255 (7.9)
North Carolina	16 (3.3)	263 (3.8)!	33 (4.1)	263 (2.6)	45 (4.3)	252 (2.5)	7 (2.0)	247 (6.8)!
North Dakota	38 (3.7)	281 (1.8)	11 (3.1)	286 (4.2)!	39 (4.4)	280 (1.8)	12 (3.6)	287 (2.5)!
Ohio	13 (3.2)	277 (7.6)!	14 (3.3)	265 (5.8)!	60 (5.0)	268 (2.7)	13 (3.0)	267 (5.5)!
Oklahoma	18 (3.4)	271 (4.3)	22 (4.4)	268 (4.0)!	43 (4.5)	267 (2.5)	17 (3.3)	269 (3.6)!
Pennsylvania	37 (3.0)	274 (2.0)	26 (3.2)	275 (3.4)	25 (2.8)	266 (2.8)	12 (2.5)	269 (3.6)!
Rhode Island	35 (1.1)	270 (1.3)	16 (0.8)	269 (1.7)	36 (0.9)	261 (1.6)	13 (0.8)	260 (2.3)
South Carolina	27 (3.7)	268 (2.7)	24 (3.2)	261 (2.7)	42 (3.0)	256 (2.1)	8 (1.8)	259 (6.5)!
Tennessee	15 (3.2)	256 (5.4)!	12 (2.5)	262 (4.2)!	57 (4.3)	259 (1.8)	17 (3.5)	259 (6.0)!
Texas	23 (3.5)	266 (3.4)	23 (3.4)	271 (4.6)	37 (3.9)	256 (2.4)	17 (2.7)	260 (5.0)
Utah	25 (2.9)	275 (1.8)	26 (2.9)	278 (2.2)	31 (3.0)	271 (2.3)	18 (2.2)	275 (2.3)
Virginia	20 (3.2)	273 (3.3)	22 (3.1)	264 (3.1)	43 (3.8)	270 (2.5)	15 (2.6)	262 (5.8)
West Virginia	16 (3.2)	264 (2.3)!	19 (3.3)	261 (3.2)	43 (4.0)	259 (1.6)	21 (3.3)	251 (2.0)
Wisconsin	17 (3.6)	281 (4.6)!	20 (4.3)	280 (2.4)!	52 (4.8)	276 (1.6)	11 (2.1)	281 (3.9)
Wyoming	31 (3.3)	276 (2.5)	22 (3.3)	271 (2.0)	32 (2.7)	278 (2.1)	15 (1.8)	271 (2.1)
TERRITORIES								
Guam	16 (1.7)	242 (4.8)	26 (1.6)	241 (3.6)	51 (2.0)	239 (2.9)	6 (0.8)	*** (***)
Virgin Islands	19 (1.0)	220 (2.0)	6 (0.5)	*** (***)	45 (1.1)	219 (2.0)	30 (1.0)	228 (1.8)

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TABLE 11.14 Teachers' Reports on Their Exposure to Mathematics Topics or Areas, Grades 4 and 8

	One or More College Courses		Part of a College Course		In-Service Training		Little or No Exposure	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Methods of Teaching Mathematics †								
Grade 4	92 (0.8)	219 (0.8)	9 (1.1)	214 (2.7)	50 (1.9)	220 (1.1)	1 (0.3)	209 (5.2)
Grade 8	58 (2.2)	269 (1.2)	17 (2.1)	268 (2.4)	48 (2.5)	269 (1.3)	9 (1.0)	265 (2.4)
Number Systems and Numeration								
Grade 4	53 (2.0)	219 (1.3)	36 (1.9)	220 (1.2)	34 (1.9)	219 (1.4)	6 (0.9)	214 (2.6)
Grade 8	56 (2.1)	268 (1.2)	32 (1.9)	270 (1.6)	21 (1.5)	266 (1.9)	8 (1.2)	269 (2.3)
Measurement in Mathematics								
Grade 4	43 (2.0)	219 (1.4)	39 (2.2)	220 (1.3)	34 (2.1)	219 (1.4)	10 (1.2)	214 (2.1)
Grade 8	47 (2.5)	268 (1.3)	34 (2.5)	268 (1.7)	28 (1.9)	270 (1.4)	9 (1.2)	269 (2.7)
Geometry								
Grade 4	33 (1.9)	217 (1.5)	39 (2.4)	222 (1.2)	27 (2.4)	220 (1.7)	17 (1.4)	216 (1.7)
Grade 8	66 (2.3)	271 (1.3)	23 (1.6)	264 (1.8)	25 (1.9)	269 (1.7)	7 (1.1)	265 (2.8)
Probability and Statistics								
Grade 4	45 (2.3)	218 (1.3)	23 (1.7)	220 (1.5)	20 (2.0)	223 (1.8)	24 (1.9)	218 (1.3)
Grade 8	67 (2.3)	268 (1.4)	22 (1.7)	269 (2.1)	18 (1.5)	270 (1.9)	8 (1.0)	264 (3.9)
Abstract/Linear Algebra								
Grade 4	31 (2.0)	215 (1.5)	21 (1.9)	221 (2.2)	7 (1.2)	222 (3.9)	46 (2.2)	220 (1.1)
Grade 8	67(2.2)	270 (1.3)	15 (1.4)	265 (2.4)	11 (1.5)	271 (3.8)	15 (1.6)	265 (2.0)
Calculus								
Grade 4	13 (1.1)	216 (2.1)	7 (1.0)	212 (3.9)	1 (0.4)	214 (6.5)	78 (1.3)	220 (0.9)
Grade 8	66 (2.5)	270 (1.4)	7 (1.2)	262 (3.8)	2 (0.6)	270 (4.6)	25 (2.1)	265 (1.7)

† Teachers of fourth graders were asked about elementary school methods and teachers of eighth graders were asked about middle-school methods.

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 11.15 | Teachers' Reports on Their Exposure to Methods of Teaching Mathematics

PUBLIC SCHOOLS	Grade 4 - 1992							
	Yes, One or More College Courses		Yes, Part of One College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	93 (0.8)	218 (1.0)	9 (1.3)	212 (3.2)	51 (2.0)	219 (1.3)	0 (0.2)	*** (***)
Northeast	93 (1.9)	223 (2.4)	9 (3.0)	219 (8.3)!	46 (6.3)	223 (3.1)	0 (0.0)	*** (***)
Southeast	91 (1.7)	208 (1.9)	8 (1.4)	195 (7.1)	43 (3.3)	208 (2.9)	1 (0.6)	*** (***)
Central	98 (0.4)	224 (2.0)	5 (3.3)	*** (***)	55 (2.4)	225 (2.3)	0 (0.0)	*** (***)
West	90 (1.9)	218 (1.8)	13 (2.2)	215 (2.7)	59 (4.4)	219 (2.0)	1 (0.3)	*** (***)
STATES								
Alabama	96 (1.3)	208 (1.7)	8 (2.0)	198 (4.7)!	49 (3.9)	211 (2.2)	0 (0.4)	*** (***)
Arizona	95 (1.0)	214 (1.1)	10 (1.6)	212 (3.6)	46 (2.9)	217 (1.4)	0 (0.3)	*** (***)
Arkansas	95 (1.2)	210 (0.9)	4 (1.1)	200 (4.5)!	43 (3.5)	211 (1.4)	1 (0.3)	*** (***)
California	86 (2.0)	208 (1.7)	15 (2.1)	206 (3.6)	60 (3.3)	208 (1.9)	1 (0.6)	*** (***)
Colorado	95 (1.3)	220 (1.1)	12 (1.8)	218 (2.7)	48 (3.2)	220 (1.3)	0 (0.0)	*** (***)
Connecticut	91 (1.8)	228 (1.4)	12 (2.0)	225 (3.6)	70 (3.3)	229 (1.2)	0 (0.0)	*** (***)
Delaware	97 (0.5)	217 (0.8)	5 (0.5)	213 (3.0)	44 (0.9)	217 (0.8)	1 (0.1)	*** (***)
Dist. Columbia	88 (0.6)	191 (0.8)	14 (0.6)	194 (2.3)	52 (1.1)	193 (1.1)	1 (0.1)	*** (***)
Florida	94 (1.4)	213 (1.7)	9 (1.8)	210 (3.5)	52 (2.8)	215 (1.4)	1 (0.6)	*** (***)
Georgia	92 (1.7)	214 (1.3)	8 (1.7)	205 (4.3)!	44 (3.0)	217 (1.8)	2 (0.9)	*** (***)
Hawaii	93 (1.2)	213 (1.4)	12 (1.6)	208 (2.8)	56 (2.6)	211 (1.7)	1 (0.3)	*** (***)
Idaho	97 (1.0)	220 (0.9)	13 (2.4)	222 (2.6)	45 (3.3)	221 (1.1)	0 (0.4)	*** (***)
Indiana	97 (1.3)	220 (1.1)	5 (1.6)	220 (4.4)!	45 (3.2)	220 (1.5)	0 (0.0)	*** (***)
Iowa	96 (1.1)	229 (1.1)	5 (1.3)	232 (4.7)!	44 (3.6)	231 (1.7)	0 (0.2)	*** (***)
Kentucky	95 (1.4)	214 (1.1)	4 (1.6)	213 (8.8)!	45 (3.8)	213 (1.6)	1 (0.6)	*** (***)
Louisiana	93 (1.6)	203 (1.5)	7 (1.8)	210 (6.6)!	51 (3.5)	208 (1.9)	0 (0.2)	*** (***)
Maine	90 (2.0)	230 (1.1)	15 (2.7)	232 (2.5)	57 (3.3)	232 (1.5)	0 (0.4)	*** (***)
Maryland	94 (1.3)	218 (1.2)	11 (1.7)	216 (4.9)	54 (2.8)	220 (1.8)	1 (0.4)	*** (***)
Massachusetts	87 (2.6)	226 (1.3)	10 (2.0)	222 (5.1)!	58 (3.7)	227 (1.5)	2 (1.0)	*** (***)
Michigan	93 (1.6)	219 (1.8)	11 (2.3)	213 (5.2)!	65 (3.5)	219 (2.2)	0 (0.0)	*** (***)
Minnesota	93 (2.0)	228 (1.0)	10 (1.8)	224 (3.8)	47 (3.8)	228 (1.5)	1 (0.6)	*** (***)
Mississippi	92 (2.1)	201 (1.2)	10 (2.3)	197 (2.3)!	47 (3.5)	204 (1.5)	2 (1.4)	*** (***)
Missouri	97 (0.9)	221 (1.3)	6 (1.3)	221 (5.6)!	37 (2.8)	223 (2.1)	0 (0.0)	*** (***)
Nebraska	94 (2.1)	224 (1.3)	8 (2.3)	223 (3.4)!	47 (3.9)	224 (1.8)	1 (0.5)	*** (***)
New Hampshire	94 (1.4)	229 (1.2)	10 (1.8)	233 (3.5)	54 (3.6)	229 (1.6)	1 (0.5)	*** (***)
New Jersey	88 (2.1)	227 (1.5)	14 (2.6)	223 (5.4)	54 (3.6)	225 (2.1)	1 (0.4)	*** (***)
New Mexico	91 (1.5)	212 (1.5)	10 (2.0)	206 (2.5)	44 (4.1)	215 (1.8)	1 (0.5)	*** (***)
New York	85 (2.5)	218 (1.4)	13 (2.4)	218 (4.0)	44 (3.7)	219 (2.2)	2 (0.7)	*** (***)
North Carolina	90 (2.1)	212 (1.1)	7 (1.6)	212 (4.4)!	59 (2.8)	213 (1.3)	1 (0.6)	*** (***)
North Dakota	95 (1.6)	228 (0.9)	11 (2.3)	229 (2.9)!	44 (3.9)	230 (1.2)	0 (0.0)	*** (***)
Ohio	96 (1.4)	217 (1.3)	8 (1.6)	216 (4.0)!	54 (3.4)	218 (1.6)	0 (0.0)	*** (***)
Oklahoma	97 (1.0)	219 (1.0)	2 (0.8)	*** (***)	39 (3.5)	220 (1.4)	0 (0.3)	*** (***)
Pennsylvania	91 (1.9)	224 (1.6)	9 (1.9)	218 (3.7)!	52 (3.0)	223 (1.8)	1 (0.7)	*** (***)
Rhode Island	88 (1.5)	215 (1.6)	15 (2.7)	211 (3.3)	50 (3.2)	214 (2.1)	1 (0.4)	*** (***)
South Carolina	92 (1.5)	212 (1.1)	7 (1.3)	210 (5.0)	44 (3.5)	213 (1.8)	1 (0.6)	*** (***)
Tennessee	93 (1.7)	210 (1.4)	8 (1.4)	210 (3.8)	48 (2.5)	212 (1.8)	1 (0.6)	*** (***)
Texas	89 (1.8)	218 (1.4)	8 (1.5)	213 (4.6)	52 (3.4)	218 (1.7)	2 (0.6)	*** (***)
Utah	92 (1.6)	223 (1.0)	10 (1.7)	224 (3.2)	51 (3.3)	222 (1.2)	0 (0.2)	*** (***)
Virginia	93 (1.4)	220 (1.4)	9 (1.7)	218 (4.0)!	48 (3.1)	220 (1.9)	1 (0.4)	*** (***)
West Virginia	93 (1.5)	214 (1.2)	13 (2.2)	217 (2.4)	45 (3.4)	215 (1.4)	0 (0.1)	*** (***)
Wisconsin	94 (1.6)	228 (1.2)	10 (2.0)	230 (3.9)!	42 (3.3)	230 (1.5)	0 (0.0)	*** (***)
Wyoming	99 (0.6)	225 (1.0)	6 (1.3)	225 (2.8)!	44 (3.0)	223 (1.3)	0 (0.4)	*** (***)
TERRITORY								
Guam	81 (0.9)	192 (1.0)	38 (1.3)	194 (1.4)	32 (1.2)	194 (1.3)	1 (0.3)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Teachers of fourth graders were asked about elementary school methods and teachers of eighth graders were asked about middle-school methods. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.15 | Teachers' Reports on Their Exposure to Methods of Teaching Mathematics (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Yes, One or More College Courses		Yes, Part of One College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	58 (2.4)	268 (1.4)	17 (2.4)	266 (2.4)	48 (2.7)	267 (1.4)	8 (1.1)	264 (2.5)
Northeast	57 (6.8)	264 (4.5)	25 (5.5)	268 (4.7)!	50 (5.2)	268 (3.5)	5 (2.2)	*** (***)
Southeast	68 (5.6)	261 (1.2)	12 (5.2)	257 (8.8)!	57 (4.2)	262 (1.8)	3 (1.3)	*** (***)
Central	55 (4.6)	278 (3.0)	20 (4.6)	267 (4.7)!	47 (6.7)	272 (2.9)	6 (1.8)	267 (4.0)!
West	54 (2.8)	271 (2.6)	14 (4.4)	268 (2.4)!	40 (5.1)	267 (3.5)	17 (2.8)	264 (2.8)
STATES								
Alabama	67 (3.7)	252 (1.8)	18 (3.1)	252 (7.1)	49 (4.1)	253 (2.9)	7 (2.1)	243 (4.6)!
Arizona	68 (3.7)	265 (1.6)	18 (2.7)	261 (2.8)	40 (3.5)	265 (2.0)	7 (1.8)	271 (4.2)!
Arkansas	62 (3.5)	255 (1.8)	12 (2.3)	257 (4.3)	47 (3.6)	257 (1.8)	12 (2.9)	253 (4.0)!
California	57 (3.4)	263 (2.5)	16 (2.2)	258 (3.3)	51 (3.4)	262 (2.5)	8 (1.7)	258 (4.2)!
Colorado	53 (3.2)	272 (1.6)	16 (2.2)	272 (2.1)	50 (2.5)	273 (1.8)	10 (1.9)	269 (3.4)
Connecticut	66 (3.3)	274 (1.3)	15 (2.7)	269 (4.5)	56 (3.3)	277 (2.0)	5 (1.4)	263 (7.6)!
Delaware	64 (0.9)	262 (1.2)	15 (0.9)	262 (2.5)	32 (0.6)	260 (1.7)	16 (0.6)	267 (2.6)
Dist. Columbia	75 (0.8)	233 (0.9)	15 (0.9)	236 (3.3)	37 (0.9)	232 (1.8)	1 (0.1)	*** (***)
Florida	60 (3.6)	262 (1.7)	11 (1.9)	257 (3.0)	51 (3.0)	260 (1.7)	7 (2.2)	256 (9.0)!
Georgia	69 (2.8)	261 (1.4)	10 (1.4)	255 (3.3)	42 (3.5)	257 (1.9)	8 (1.9)	252 (4.7)!
Hawaii	39 (0.7)	261 (1.3)	15 (0.7)	254 (1.8)	47 (0.8)	255 (1.3)	17 (0.6)	255 (2.0)
Idaho	52 (3.1)	275 (1.0)	19 (2.3)	273 (2.1)	41 (2.9)	274 (1.5)	13 (1.9)	275 (2.0)
Indiana	63 (4.1)	270 (1.4)	28 (4.0)	267 (2.5)	38 (3.6)	271 (2.0)	12 (2.3)	267 (3.5)
Iowa	69 (4.6)	283 (1.3)	13 (3.0)	284 (2.6)!	29 (3.7)	283 (2.0)	10 (2.5)	280 (2.8)!
Kentucky	58 (3.4)	261 (1.6)	17 (3.0)	261 (2.7)	49 (3.5)	264 (1.6)	14 (2.7)	258 (2.2)!
Louisiana	63 (3.7)	248 (2.2)	12 (2.4)	256 (4.0)	50 (3.9)	252 (2.1)	9 (2.5)	245 (5.8)!
Maine	59 (4.2)	280 (1.5)	18 (3.2)	281 (2.6)	51 (4.2)	277 (1.6)	8 (2.2)	274 (4.2)!
Maryland	67 (3.6)	265 (1.7)	16 (2.5)	260 (3.7)	52 (4.3)	265 (2.3)	4 (0.8)	268 (6.5)!
Massachusetts	61 (3.1)	273 (1.7)	18 (3.1)	272 (3.0)	37 (3.2)	272 (1.9)	13 (2.9)	271 (3.8)!
Michigan	60 (3.9)	266 (1.9)	17 (2.8)	268 (4.2)	42 (4.1)	271 (2.6)	13 (2.1)	271 (5.0)
Minnesota	62 (3.1)	282 (1.3)	18 (2.9)	282 (2.5)	33 (3.0)	285 (1.8)	11 (2.4)	281 (4.2)!
Mississippi	72 (3.1)	245 (1.5)	16 (2.7)	250 (2.7)	41 (3.4)	247 (2.4)	7 (1.9)	249 (4.3)!
Missouri	57 (3.8)	270 (1.5)	19 (3.0)	270 (2.3)	43 (4.1)	272 (1.5)	13 (2.7)	275 (3.6)!
Nebraska	52 (3.9)	276 (1.6)	23 (2.9)	280 (2.1)	42 (3.7)	277 (1.9)	11 (2.3)	274 (2.4)!
New Hampshire	60 (3.6)	278 (1.4)	11 (2.2)	278 (3.5)	55 (3.5)	278 (1.3)	7 (1.5)	278 (4.1)!
New Jersey	60 (5.0)	276 (2.3)	21 (3.5)	269 (4.0)	54 (4.2)	269 (2.8)	6 (2.0)	272 (5.6)!
New Mexico	61 (3.4)	261 (1.0)	19 (2.5)	258 (2.6)	47 (3.3)	260 (1.2)	13 (2.4)	256 (3.3)
New York	70 (3.3)	267 (2.1)	14 (2.6)	259 (6.1)	40 (3.7)	265 (2.8)	5 (1.2)	270 (6.6)!
North Carolina	68 (3.3)	259 (1.4)	9 (1.6)	258 (3.3)	50 (3.3)	260 (1.4)	8 (2.3)	251 (3.7)!
North Dakota	54 (4.2)	283 (1.5)	20 (3.3)	282 (1.9)	35 (4.1)	284 (1.7)	16 (2.5)	283 (2.0)
Ohio	54 (4.1)	267 (2.6)	26 (3.5)	267 (3.1)	56 (4.6)	269 (1.9)	8 (2.1)	272 (3.9)!
Oklahoma	66 (3.5)	267 (1.6)	15 (2.8)	266 (2.4)	38 (3.5)	268 (2.0)	10 (2.2)	270 (3.5)!
Pennsylvania	58 (3.4)	270 (2.0)	24 (3.0)	272 (2.4)	39 (3.5)	275 (2.5)	13 (2.3)	269 (4.2)
Rhode Island	48 (0.8)	264 (1.0)	12 (0.9)	260 (2.5)	41 (1.0)	266 (1.1)	23 (0.7)	267 (1.6)
South Carolina	70 (3.3)	260 (1.3)	16 (2.8)	257 (4.2)	51 (3.7)	259 (1.8)	8 (2.3)	261 (3.7)!
Tennessee	57 (4.0)	258 (2.0)	19 (3.1)	261 (2.3)	54 (4.2)	261 (1.5)	8 (2.3)	250 (5.3)!
Texas	59 (3.0)	265 (2.0)	15 (1.9)	256 (2.9)	56 (3.3)	266 (1.7)	8 (1.7)	260 (3.4)!
Utah	68 (2.5)	275 (0.9)	15 (1.8)	271 (1.7)	34 (2.8)	273 (1.6)	9 (1.2)	269 (3.6)
Virginia	53 (3.3)	267 (1.7)	12 (1.9)	265 (3.3)	47 (2.7)	270 (1.9)	15 (2.7)	265 (3.0)
West Virginia	72 (3.7)	258 (1.2)	12 (2.6)	261 (2.1)!	40 (3.7)	259 (1.7)	6 (1.9)	257 (3.0)!
Wisconsin	68 (4.6)	277 (2.0)	18 (3.3)	274 (3.3)	48 (4.3)	280 (2.5)	11 (4.7)	284 (4.0)!
Wyoming	60 (3.0)	276 (1.1)	21 (2.5)	273 (2.4)	28 (2.1)	275 (2.1)	20 (1.8)	271 (2.2)
TERRITORIES								
Guam	61 (1.0)	238 (1.6)	12 (0.9)	234 (3.4)	31 (1.2)	228 (1.5)	0 (0.0)	*** (***)
Virgin Islands	29 (1.0)	227 (2.0)	15 (0.8)	219 (2.1)	61 (0.9)	221 (1.3)	8 (0.5)	217 (2.0)

TABLE 11.16 | Teachers' Reports on Their Exposure to Number Systems and Numeration

PUBLIC SCHOOLS	Grade 4 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	54 (2.3)	218 (1.4)	35 (2.2)	219 (1.4)	36 (2.1)	218 (1.5)	6 (1.0)	214 (2.6)
Northeast	53 (5.4)	223 (2.8)	38 (6.2)	225 (3.4)	29 (5.0)	219 (5.1)!	4 (2.2)	*** (***)
Southeast	56 (5.3)	206 (2.2)	32 (4.1)	209 (3.6)	33 (3.3)	208 (3.2)	6 (1.1)	207 (4.7)
Central	53 (4.8)	222 (2.7)	38 (5.3)	227 (2.3)	35 (4.0)	224 (2.6)	5 (1.8)	*** (***)
West	54 (3.4)	221 (2.5)	31 (2.9)	213 (1.9)	44 (4.4)	220 (2.0)	9 (2.3)	214 (4.2)!
STATES								
Alabama	60 (3.1)	206 (1.9)	32 (3.3)	208 (2.3)	33 (3.6)	208 (2.7)	5 (1.7)	212 (3.6)!
Arizona	57 (2.8)	214 (1.5)	34 (2.6)	214 (1.9)	32 (2.4)	216 (1.8)	6 (1.4)	214 (3.7)!
Arkansas	60 (3.6)	208 (1.3)	26 (3.0)	211 (1.9)	26 (2.8)	210 (1.5)	6 (1.6)	212 (3.3)!
California	54 (3.3)	209 (2.1)	36 (3.1)	207 (2.2)	43 (3.4)	210 (2.3)	6 (1.7)	193 (5.8)!
Colorado	57 (3.1)	221 (1.4)	37 (2.5)	220 (1.5)	31 (2.4)	222 (1.8)	6 (1.5)	218 (4.0)!
Connecticut	58 (3.2)	226 (1.8)	32 (3.0)	229 (1.7)	50 (3.5)	229 (1.6)	4 (1.3)	223 (5.6)!
Delaware	58 (1.2)	217 (1.0)	34 (1.1)	219 (1.5)	21 (0.5)	214 (1.1)	7 (0.4)	216 (3.7)
Dist. Columbia	63 (0.8)	189 (0.9)	31 (0.8)	196 (1.5)	43 (1.0)	193 (1.1)	3 (0.2)	*** (***)
Florida	58 (3.0)	213 (1.9)	31 (3.1)	212 (2.3)	43 (2.6)	216 (1.9)	4 (1.2)	209 (4.9)!
Georgia	61 (3.4)	214 (1.8)	32 (2.9)	213 (2.3)	30 (2.9)	218 (1.6)	6 (1.5)	210 (4.5)!
Hawaii	56 (3.0)	211 (1.9)	44 (2.9)	215 (1.7)	39 (2.7)	211 (2.0)	3 (0.6)	216 (5.9)
Idaho	57 (2.7)	219 (1.2)	42 (2.4)	221 (1.3)	23 (2.8)	222 (1.7)	4 (1.2)	217 (4.1)!
Indiana	56 (3.1)	218 (1.4)	42 (3.5)	221 (1.8)	22 (2.6)	218 (2.4)	3 (1.1)	231 (5.6)!
Iowa	57 (3.8)	230 (1.5)	41 (3.5)	230 (1.4)	25 (2.7)	231 (2.6)	3 (1.2)	220 (6.2)!
Kentucky	54 (3.9)	214 (1.3)	34 (3.3)	214 (2.1)	23 (2.8)	213 (2.2)	11 (2.2)	215 (3.2)
Louisiana	61 (3.3)	203 (1.6)	32 (3.0)	206 (2.2)	35 (3.1)	207 (2.3)	4 (1.7)	195 (7.6)!
Maine	47 (3.8)	229 (1.6)	41 (3.7)	230 (1.5)	32 (3.4)	234 (1.6)	6 (1.8)	233 (4.0)!
Maryland	51 (2.8)	216 (1.8)	45 (2.7)	218 (1.9)	37 (2.9)	217 (2.2)	5 (1.1)	225 (4.7)!
Massachusetts	54 (3.9)	225 (1.8)	32 (3.5)	227 (1.6)	41 (3.7)	231 (1.8)	7 (2.4)	219 (4.6)!
Michigan	51 (3.9)	217 (2.4)	41 (3.7)	223 (2.2)	49 (3.7)	219 (2.4)	3 (1.0)	217 (6.5)!
Minnesota	58 (3.2)	226 (1.5)	36 (3.0)	229 (1.7)	32 (4.1)	227 (1.9)	4 (1.5)	226 (3.5)!
Mississippi	68 (2.8)	199 (1.3)	27 (3.0)	203 (2.1)	25 (3.1)	202 (2.1)	6 (2.0)	197 (7.7)!
Missouri	61 (3.3)	219 (1.6)	33 (3.7)	224 (1.7)	20 (2.9)	221 (2.5)	6 (1.7)	223 (3.6)!
Nebraska	44 (3.3)	225 (2.1)	47 (3.4)	223 (1.7)	24 (3.2)	227 (2.7)	8 (2.1)	227 (4.6)!
New Hampshire	51 (3.8)	227 (1.7)	35 (3.2)	231 (2.0)	39 (3.1)	230 (1.7)	5 (1.3)	226 (2.5)!
New Jersey	48 (3.3)	226 (1.9)	44 (3.5)	228 (2.2)	31 (3.2)	221 (2.7)	4 (1.1)	234 (6.9)!
New Mexico	64 (3.2)	212 (1.9)	30 (3.0)	211 (1.9)	25 (3.3)	215 (2.1)	6 (1.4)	210 (3.5)!
New York	49 (3.4)	216 (2.0)	37 (2.5)	220 (2.0)	26 (3.0)	218 (2.9)	9 (1.7)	219 (3.9)
North Carolina	57 (3.1)	213 (1.4)	27 (2.4)	211 (1.9)	42 (2.9)	213 (1.6)	7 (1.4)	208 (3.0)!
North Dakota	51 (4.0)	229 (1.2)	45 (4.1)	228 (1.2)	23 (3.9)	227 (1.8)	6 (1.7)	227 (2.8)!
Ohio	55 (3.5)	217 (1.7)	39 (3.3)	219 (1.7)	33 (3.5)	216 (2.2)	5 (1.4)	218 (5.3)!
Oklahoma	65 (2.9)	219 (1.1)	27 (3.0)	220 (1.9)	16 (2.7)	221 (2.2)	4 (1.3)	223 (5.0)!
Pennsylvania	62 (3.1)	223 (2.0)	29 (2.7)	222 (2.1)	26 (2.8)	223 (2.3)	6 (1.3)	222 (5.3)!
Rhode Island	41 (3.2)	211 (2.7)	47 (3.0)	216 (1.9)	22 (2.4)	215 (2.7)	11 (2.1)	218 (3.4)
South Carolina	56 (3.6)	212 (1.6)	34 (3.5)	211 (2.1)	29 (3.1)	213 (2.3)	5 (1.1)	206 (4.5)!
Tennessee	62 (2.9)	210 (1.6)	27 (3.0)	211 (2.1)	31 (2.7)	210 (2.4)	5 (1.3)	202 (2.4)!
Texas	54 (2.8)	216 (1.6)	30 (2.9)	218 (2.3)	41 (3.6)	218 (1.6)	4 (1.1)	216 (6.3)!
Utah	57 (2.8)	223 (1.2)	33 (2.7)	223 (1.4)	38 (2.8)	222 (1.2)	3 (0.9)	220 (5.8)!
Virginia	58 (2.6)	217 (1.6)	33 (2.5)	222 (2.0)	26 (2.2)	221 (2.7)	7 (1.3)	229 (5.5)!
West Virginia	59 (3.1)	215 (1.7)	38 (3.2)	214 (1.5)	23 (2.8)	215 (1.8)	4 (1.4)	208 (5.4)!
Wisconsin	48 (2.7)	229 (1.5)	48 (2.8)	228 (1.6)	24 (2.7)	229 (2.0)	4 (1.0)	224 (4.9)!
Wyoming	63 (3.2)	225 (1.2)	30 (3.0)	224 (1.7)	26 (2.8)	223 (1.8)	6 (1.4)	224 (3.3)!
TERRITORY								
Guam	49 (1.1)	193 (1.3)	52 (1.4)	192 (1.4)	26 (1.1)	192 (1.6)	6 (0.5)	186 (4.9)!

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.16 | Teachers' Reports on Their Exposure to Number Systems and Numeration (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	58 (2.4)	267 (1.2)	32 (2.2)	268 (1.8)	20 (1.5)	263 (2.2)	7 (1.2)	267 (2.3)
Northeast	54 (4.8)	265 (3.3)	41 (5.1)	271 (4.4)	16 (3.2)	261 (7.0)!	10 (2.6)	263 (3.8)!
Southeast	56 (4.3)	262 (2.2)	31 (3.2)	259 (2.9)	27 (3.5)	261 (2.9)	8 (2.7)	264 (4.2)!
Central	58 (6.6)	272 (2.4)	32 (4.6)	277 (4.2)	18 (3.0)	266 (5.9)	3 (1.5)	*** (***)
West	62 (3.7)	267 (2.5)	27 (4.6)	267 (2.6)	18 (2.3)	263 (3.5)	8 (2.2)	267 (2.9)!
STATES								
Alabama	68 (4.2)	251 (2.1)	29 (3.6)	254 (4.6)	25 (3.6)	251 (2.4)	5 (1.7)	247 (4.6)!
Arizona	58 (3.6)	265 (1.9)	29 (3.3)	265 (2.0)	19 (3.2)	263 (3.0)	9 (1.8)	264 (6.7)!
Arkansas	61 (3.7)	254 (1.5)	30 (3.7)	259 (2.2)	28 (3.7)	257 (2.5)	8 (2.3)	258 (5.1)!
California	60 (3.0)	262 (2.0)	26 (2.8)	267 (3.4)	25 (3.1)	260 (3.8)	9 (1.9)	254 (5.7)!
Colorado	56 (3.0)	271 (1.5)	35 (3.1)	274 (1.7)	16 (2.0)	274 (2.4)	11 (2.0)	270 (3.8)
Connecticut	74 (3.0)	274 (1.3)	24 (2.7)	273 (1.8)	29 (2.9)	272 (3.9)	5 (1.4)	258 (8.3)!
Delaware	60 (0.8)	265 (1.2)	34 (0.7)	260 (1.6)	14 (0.9)	263 (2.8)	6 (0.6)	252 (8.2)
Dist. Columbia	59 (0.9)	231 (1.0)	24 (0.9)	238 (2.3)	35 (0.9)	232 (1.6)	3 (0.5)	*** (***)
Florida	59 (3.3)	261 (1.6)	26 (2.8)	260 (2.4)	20 (2.5)	261 (3.1)	8 (1.7)	252 (6.4)!
Georgia	63 (3.3)	260 (1.3)	28 (3.0)	260 (2.8)	18 (2.5)	257 (2.8)	8 (1.6)	251 (3.5)
Hawaii	50 (0.9)	257 (1.2)	30 (0.8)	260 (1.7)	14 (0.5)	257 (2.4)	15 (0.5)	251 (1.7)
Idaho	62 (3.1)	274 (0.9)	33 (3.2)	276 (1.7)	19 (2.3)	273 (2.7)	3 (0.8)	264 (3.7)!
Indiana	73 (3.8)	269 (1.2)	26 (3.8)	268 (2.6)	10 (2.2)	271 (3.8)!	4 (1.3)	275 (8.9)!
Iowa	68 (3.7)	283 (1.2)	28 (3.2)	285 (1.9)	15 (3.5)	281 (2.4)!	5 (1.8)	274 (4.3)!
Kentucky	64 (4.2)	264 (1.3)	35 (3.8)	260 (2.1)	21 (3.5)	266 (3.0)	6 (1.9)	255 (4.8)!
Louisiana	58 (3.6)	248 (2.5)	31 (3.3)	252 (2.5)	27 (3.6)	247 (2.7)	4 (1.6)	241 (6.0)!
Maine	61 (3.8)	280 (1.4)	25 (3.2)	277 (1.7)	31 (4.2)	278 (2.2)	4 (0.9)	270 (7.5)!
Maryland	58 (3.1)	266 (2.0)	35 (2.9)	263 (2.3)	30 (3.3)	265 (2.7)	3 (1.1)	262(11.0)!
Massachusetts	70 (4.0)	273 (1.6)	26 (3.6)	273 (2.9)	10 (1.9)	272 (3.8)	8 (2.1)	267 (4.0)!
Michigan	53 (3.9)	269 (2.4)	34 (3.5)	269 (3.3)	22 (3.6)	264 (3.9)	11 (2.1)	266 (4.7)
Minnesota	68 (3.5)	281 (1.2)	27 (3.0)	285 (2.0)	12 (2.0)	281 (3.1)	5 (1.7)	279 (5.4)!
Mississippi	63 (4.1)	244 (1.7)	28 (3.8)	250 (2.4)	19 (2.9)	247 (3.9)	7 (2.1)	248 (5.0)!
Missouri	61 (4.1)	272 (1.3)	31 (3.5)	267 (2.0)	22 (3.3)	270 (2.3)	7 (1.7)	273 (3.2)!
Nebraska	60 (3.6)	276 (1.4)	30 (3.4)	280 (2.0)	14 (2.9)	275 (2.4)	8 (2.1)	276 (4.6)!
New Hampshire	66 (3.6)	278 (1.1)	22 (3.2)	278 (2.1)	25 (4.3)	281 (1.7)	9 (1.9)	270 (4.4)!
New Jersey	52 (4.5)	276 (2.3)	43 (4.9)	269 (3.5)	29 (3.3)	264 (3.6)	5 (1.8)	261 (7.6)!
New Mexico	65 (3.2)	261 (1.1)	24 (2.7)	258 (2.0)	22 (3.1)	262 (1.7)	9 (2.2)	252 (3.3)!
New York	67 (3.4)	265 (2.5)	23 (2.8)	274 (3.3)	17 (2.8)	259 (5.2)	6 (1.7)	265 (6.9)!
North Carolina	63 (2.8)	256 (1.7)	27 (2.6)	260 (2.2)	25 (3.0)	259 (1.9)	5 (1.2)	255 (4.4)!
North Dakota	69 (3.8)	283 (1.0)	26 (3.7)	282 (1.8)	16 (3.0)	284 (2.6)!	6 (1.9)	287 (3.5)!
Ohio	46 (5.2)	269 (2.9)	44 (5.3)	267 (2.2)	21 (3.1)	263 (5.1)	7 (2.0)	266 (5.1)!
Oklahoma	70 (3.0)	268 (1.5)	26 (3.2)	269 (2.0)	14 (2.9)	265 (4.1)	4 (1.4)	255 (5.4)!
Pennsylvania	65 (3.3)	271 (1.8)	33 (3.2)	273 (2.2)	16 (2.1)	268 (4.8)	4 (1.2)	278 (5.4)!
Rhode Island	64 (0.8)	264 (0.9)	34 (0.8)	265 (1.3)	14 (0.8)	270 (2.0)	2 (0.2)	270 (3.4)
South Carolina	60 (3.3)	262 (1.6)	35 (3.5)	256 (2.3)	24 (2.8)	257 (2.7)	7 (1.8)	263 (3.7)!
Tennessee	58 (4.1)	259 (1.8)	30 (3.7)	260 (2.6)	30 (4.0)	260 (1.6)	8 (2.1)	253 (4.1)!
Texas	58 (3.3)	265 (1.7)	29 (2.7)	267 (2.4)	34 (3.4)	262 (2.3)	7 (1.5)	258 (6.5)!
Utah	72 (2.7)	274 (1.0)	21 (2.3)	272 (2.1)	15 (1.8)	275 (2.8)	5 (1.0)	271 (4.5)!
Virginia	61 (3.0)	269 (1.8)	29 (2.7)	263 (1.7)	12 (1.8)	273 (4.0)	7 (1.5)	264 (4.8)!
West Virginia	69 (3.6)	257 (1.4)	28 (3.7)	261 (1.6)	14 (2.7)	264 (2.7)	5 (1.5)	258 (3.5)!
Wisconsin	59 (4.1)	279 (1.5)	40 (4.4)	277 (2.8)	25 (3.4)	278 (2.7)	5 (1.2)	273 (3.7)!
Wyoming	66 (3.5)	274 (1.3)	33 (3.1)	277 (1.3)	8 (2.2)	266 (5.0)!	7 (1.1)	272 (1.7)
TERRITORIES								
Guam	57 (0.8)	237 (1.8)	35 (0.9)	237 (1.8)	15 (0.5)	228 (2.3)	9 (0.7)	227 (3.2)
Virgin Islands	54 (1.2)	225 (1.5)	18 (0.9)	217 (2.0)	30 (1.2)	217 (1.8)	0 (0.1)	*** (***)

TABLE 11.17 | Teachers' Reports on Their Exposure to Measurement in Mathematics

PUBLIC SCHOOLS	Grade 4 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	43 (2.2)	217 (1.5)	39 (2.5)	219 (1.5)	36 (2.4)	218 (1.6)	10 (1.3)	214 (2.1)
Northeast	44 (6.2)	225 (3.1)	42 (7.8)	222 (3.1)!	30 (4.4)	220 (4.0)	7 (2.9)	*** (***)
Southeast	46 (4.9)	206 (2.5)	36 (4.8)	209 (3.2)	33 (4.7)	207 (3.1)	10 (2.2)	208 (4.7)!
Central	41 (3.2)	223 (3.1)	43 (5.6)	226 (2.4)	32 (4.5)	222 (2.8)	9 (2.9)	218 (3.9)!
West	42 (3.6)	218 (2.0)	35 (2.8)	219 (3.3)	45 (5.1)	220 (2.5)	15 (2.7)	215 (3.6)
STATES								
Alabama	54 (3.0)	207 (2.0)	35 (3.3)	209 (2.4)	34 (3.7)	209 (2.8)	9 (1.5)	204 (2.9)
Arizona	47 (2.7)	215 (1.7)	39 (2.4)	213 (1.9)	29 (2.3)	218 (1.7)	11 (1.6)	215 (3.1)
Arkansas	52 (3.1)	208 (1.4)	27 (3.1)	211 (1.7)	27 (3.0)	212 (1.9)	9 (1.8)	213 (2.3)
California	46 (3.5)	207 (1.9)	36 (2.8)	205 (1.9)	47 (3.5)	211 (2.4)	6 (1.6)	201 (4.0)!
Colorado	46 (3.2)	222 (1.7)	40 (2.9)	219 (1.5)	30 (2.3)	223 (1.9)	8 (1.9)	217 (3.5)!
Connecticut	46 (2.8)	227 (2.0)	38 (3.0)	228 (1.6)	48 (3.5)	229 (1.5)	10 (1.8)	220 (4.5)
Delaware	53 (1.1)	218 (0.9)	37 (1.0)	218 (1.3)	26 (0.7)	218 (1.1)	8 (0.7)	213 (2.3)
Dist. Columbia	57 (1.0)	188 (0.9)	32 (0.8)	195 (1.2)	40 (1.0)	193 (1.1)	4 (0.6)	188 (3.9)
Florida	51 (3.2)	213 (2.1)	34 (2.9)	211 (2.0)	45 (3.0)	215 (2.0)	6 (1.4)	218 (4.8)!
Georgia	51 (3.3)	213 (1.8)	34 (2.9)	215 (2.0)	32 (3.1)	219 (1.8)	7 (1.4)	208 (3.8)!
Hawaii	43 (3.2)	211 (2.3)	45 (2.8)	216 (1.6)	45 (2.9)	213 (1.9)	5 (1.1)	211 (5.2)!
Idaho	42 (2.6)	220 (1.5)	49 (2.8)	221 (1.3)	22 (2.7)	223 (1.5)	7 (1.7)	218 (2.8)!
Indiana	50 (3.5)	218 (1.4)	45 (3.8)	222 (1.4)	21 (2.5)	215 (2.7)	4 (1.2)	226 (6.1)!
Iowa	44 (3.2)	230 (1.7)	44 (2.9)	228 (1.5)	26 (3.2)	232 (2.1)	8 (1.8)	226 (3.0)!
Kentucky	48 (3.9)	214 (1.3)	37 (3.3)	213 (1.9)	24 (2.8)	215 (2.4)	11 (2.2)	212 (2.8)
Louisiana	54 (3.6)	203 (1.7)	32 (3.3)	204 (2.4)	34 (3.5)	209 (2.4)	7 (2.0)	202 (5.3)!
Maine	41 (3.2)	228 (1.7)	39 (3.6)	232 (1.3)	38 (3.1)	233 (1.5)	9 (2.0)	234 (3.0)!
Maryland	39 (2.6)	215 (2.2)	46 (2.9)	216 (2.0)	38 (2.7)	220 (2.0)	9 (1.3)	213 (4.3)
Massachusetts	41 (3.2)	225 (1.9)	37 (3.7)	226 (2.0)	38 (3.8)	229 (2.0)	13 (2.0)	222 (3.2)
Michigan	39 (3.4)	216 (2.8)	47 (3.9)	220 (2.6)	47 (3.9)	219 (2.6)	5 (1.4)	220 (4.6)!
Minnesota	46 (3.1)	226 (1.7)	40 (2.5)	229 (1.4)	34 (3.8)	227 (1.8)	6 (1.5)	228 (3.1)!
Mississippi	61 (3.0)	199 (1.3)	30 (3.5)	200 (2.4)	25 (3.2)	204 (2.2)	8 (2.1)	194 (6.2)!
Missouri	51 (3.5)	219 (1.9)	38 (4.0)	223 (1.9)	22 (2.8)	222 (2.1)	9 (2.0)	222 (2.9)!
Nebraska	42 (3.9)	225 (2.1)	46 (3.4)	224 (1.6)	27 (2.7)	228 (2.5)	8 (1.6)	223 (5.4)
New Hampshire	33 (3.2)	226 (2.1)	43 (3.3)	231 (1.8)	40 (3.3)	230 (1.7)	9 (1.7)	228 (1.9)!
New Jersey	42 (3.5)	225 (2.0)	44 (3.7)	228 (2.4)	28 (2.8)	220 (2.7)	8 (1.8)	226 (4.5)
New Mexico	56 (3.0)	212 (2.0)	31 (3.1)	212 (1.8)	27 (3.2)	213 (2.0)	8 (1.6)	208 (3.6)!
New York	41 (3.1)	215 (2.2)	42 (3.1)	220 (1.9)	28 (2.9)	219 (2.5)	10 (1.6)	216 (4.8)
North Carolina	47 (3.0)	214 (1.7)	29 (2.1)	211 (1.8)	40 (2.8)	213 (1.6)	12 (2.1)	211 (2.7)
North Dakota	46 (4.5)	228 (1.4)	42 (4.4)	227 (1.3)	23 (3.3)	228 (1.7)	7 (2.0)	226 (2.6)!
Ohio	47 (3.2)	216 (1.7)	44 (3.2)	219 (1.6)	28 (3.4)	217 (2.1)	6 (1.5)	210 (5.4)!
Oklahoma	57 (3.8)	219 (1.2)	31 (3.0)	219 (1.7)	18 (2.2)	221 (1.6)	6 (1.7)	220 (4.0)!
Pennsylvania	49 (3.3)	223 (2.2)	38 (3.1)	223 (2.0)	25 (2.9)	224 (2.3)	6 (1.3)	224 (4.7)!
Rhode Island	38 (2.9)	213 (2.6)	42 (2.9)	216 (2.4)	27 (2.8)	212 (2.4)	14 (2.1)	216 (4.3)
South Carolina	50 (3.4)	211 (1.5)	38 (3.5)	213 (2.1)	37 (3.4)	211 (2.1)	5 (1.1)	207 (4.8)!
Tennessee	55 (3.2)	209 (1.7)	30 (3.0)	210 (2.1)	27 (2.8)	212 (2.0)	9 (1.6)	210 (2.9)
Texas	49 (2.8)	216 (1.7)	33 (2.6)	218 (2.2)	39 (3.0)	219 (1.7)	5 (1.2)	208 (3.1)!
Utah	47 (2.6)	223 (1.3)	37 (2.9)	223 (1.3)	36 (2.8)	222 (1.3)	6 (1.6)	220 (4.1)!
Virginia	49 (3.0)	216 (1.8)	35 (2.7)	222 (2.1)	30 (2.7)	225 (2.7)	8 (1.5)	226 (4.7)
West Virginia	50 (3.3)	214 (1.5)	41 (3.0)	214 (1.5)	27 (3.0)	214 (2.0)	6 (1.5)	213 (3.9)!
Wisconsin	40 (2.9)	230 (1.6)	52 (2.7)	229 (1.7)	21 (2.4)	229 (2.3)	9 (1.5)	221 (2.8)
Wyoming	49 (3.5)	225 (1.2)	37 (3.5)	225 (1.6)	26 (2.8)	223 (1.6)	10 (2.2)	224 (2.1)!
TERRITORY								
Guam	51 (1.2)	194 (1.2)	51 (1.3)	192 (1.2)	25 (1.2)	196 (1.7)	5 (0.4)	186 (4.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.17 | Teachers' Reports on Their Exposure to Measurement in Mathematics (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	48 (2.9)	267 (1.4)	35 (2.8)	266 (1.8)	27 (2.0)	268 (1.6)	8 (1.3)	266 (3.1)
Northeast	49 (6.3)	267 (3.4)	37 (4.5)	260 (4.4)	33 (5.2)	272 (3.8)	10 (3.1)	268 (4.9)!
Southeast	49 (5.7)	259 (2.1)	31 (4.9)	261 (3.7)	35 (4.3)	264 (2.2)	8 (2.3)	265 (4.4)!
Central	44 (6.4)	275 (3.1)	41 (5.0)	274 (3.3)	23 (4.7)	267 (4.6)!	6 (2.0)	273 (3.2)!
West	51 (5.0)	268 (3.0)	31 (6.7)	267 (2.3)!	21 (2.0)	270 (2.6)	10 (3.1)	263 (8.3)!
STATES								
Alabama	52 (4.4)	250 (2.6)	33 (4.6)	253 (2.6)	32 (3.5)	256 (2.4)	8 (2.1)	248 (4.6)!
Arizona	43 (3.2)	266 (2.0)	35 (3.5)	263 (2.1)	22 (3.5)	266 (3.0)	11 (2.4)	265 (3.7)!
Arkansas	44 (4.1)	253 (2.1)	34 (3.1)	256 (2.4)	30 (3.7)	258 (2.5)	12 (2.5)	256 (4.3)!
California	45 (3.7)	261 (2.7)	31 (3.3)	265 (2.9)	34 (3.4)	259 (3.0)	10 (2.2)	260 (5.4)!
Colorado	40 (2.8)	272 (1.5)	38 (2.7)	273 (2.0)	25 (2.6)	271 (2.2)	12 (2.0)	274 (3.3)
Connecticut	53 (3.1)	274 (1.9)	31 (3.0)	275 (2.2)	36 (3.1)	277 (2.3)	7 (1.8)	269 (6.2)!
Delaware	54 (1.0)	266 (1.3)	31 (0.8)	260 (1.7)	16 (0.6)	261 (2.5)	9 (0.5)	253 (3.7)
Dist. Columbia	59 (1.1)	232 (1.3)	20 (0.9)	234 (2.4)	33 (0.9)	234 (1.5)	8 (0.8)	252 (6.2)
Florida	51 (3.2)	262 (1.9)	31 (3.5)	257 (2.2)	22 (2.7)	262 (2.7)	8 (1.7)	254 (7.2)!
Georgia	55 (3.6)	261 (1.4)	35 (3.0)	259 (2.4)	23 (2.4)	255 (2.7)	7 (1.6)	250 (4.0)!
Hawaii	41 (0.8)	257 (1.3)	34 (0.8)	259 (1.5)	18 (0.7)	255 (2.0)	18 (0.7)	255 (2.0)
Idaho	47 (2.9)	274 (0.9)	36 (3.1)	274 (1.6)	21 (2.5)	274 (2.6)	9 (1.6)	272 (3.3)
Indiana	53 (4.1)	270 (1.5)	37 (4.2)	268 (1.8)	8 (1.9)	273 (3.8)!	11 (3.3)	272 (4.3)!
Iowa	56 (3.9)	283 (1.4)	29 (3.7)	284 (1.8)	19 (4.1)	282 (2.4)!	9 (2.4)	280 (3.3)!
Kentucky	48 (3.9)	262 (1.7)	38 (3.8)	261 (2.1)	25 (3.7)	266 (2.6)	11 (2.5)	257 (2.6)!
Louisiana	52 (4.2)	248 (2.2)	34 (4.0)	253 (3.0)	29 (3.6)	249 (3.4)	6 (1.8)	247 (4.3)!
Maine	47 (4.1)	278 (1.8)	32 (3.9)	279 (1.8)	26 (3.6)	281 (2.1)	11 (3.0)	270 (3.0)!
Maryland	47 (3.5)	265 (2.4)	37 (3.3)	264 (2.1)	37 (3.3)	269 (2.5)	5 (1.5)	261 (7.9)!
Massachusetts	55 (3.9)	271 (1.8)	33 (3.8)	274 (2.3)	14 (2.5)	276 (3.2)	11 (2.5)	271 (3.4)!
Michigan	39 (3.4)	267 (2.7)	41 (2.9)	271 (2.5)	28 (3.9)	267 (3.2)	11 (2.0)	268 (5.7)
Minnesota	48 (3.4)	281 (1.4)	32 (3.5)	284 (2.1)	16 (3.0)	280 (2.6)	15 (2.8)	284 (3.0)!
Mississippi	55 (4.2)	243 (1.6)	35 (4.5)	248 (2.6)	24 (2.6)	247 (2.9)	3 (1.1)	260 (7.2)!
Missouri	39 (3.7)	272 (1.6)	35 (4.1)	269 (1.8)	23 (3.3)	272 (2.4)	14 (2.7)	273 (2.4)
Nebraska	43 (4.0)	277 (1.6)	39 (3.5)	278 (1.7)	14 (2.5)	279 (2.5)	10 (2.3)	275 (4.1)!
New Hampshire	49 (3.6)	277 (1.2)	28 (3.2)	277 (1.5)	33 (3.6)	281 (1.6)	9 (1.9)	268 (2.6)!
New Jersey	40 (4.4)	277 (2.6)	43 (4.5)	267 (3.6)	33 (3.6)	267 (3.6)	8 (2.4)	273 (5.6)!
New Mexico	51 (3.1)	259 (1.2)	34 (3.2)	259 (1.4)	25 (3.1)	263 (1.9)	12 (2.1)	254 (2.9)
New York	53 (3.7)	264 (2.8)	31 (3.2)	269 (2.7)	20 (3.2)	264 (5.6)	11 (2.1)	267 (5.1)
North Carolina	43 (3.4)	256 (1.8)	34 (3.3)	259 (2.0)	31 (3.5)	262 (1.6)	11 (2.1)	256 (3.9)
North Dakota	47 (3.8)	282 (1.5)	27 (3.7)	283 (2.0)	23 (3.2)	285 (1.6)	14 (3.1)	284 (3.4)!
Ohio	36 (4.7)	267 (3.8)	44 (5.1)	268 (2.6)	24 (3.5)	267 (4.6)	11 (2.7)	266 (4.1)!
Oklahoma	58 (3.3)	267 (1.6)	27 (3.4)	267 (2.5)	17 (3.0)	267 (4.0)	9 (2.0)	268 (3.6)!
Pennsylvania	41 (3.0)	270 (2.3)	41 (2.9)	272 (1.8)	18 (2.6)	269 (4.5)	16 (2.6)	274 (3.2)
Rhode Island	47 (1.0)	262 (1.0)	28 (0.9)	263 (1.2)	25 (0.7)	269 (1.5)	11 (0.6)	273 (1.6)
South Carolina	47 (3.2)	261 (1.7)	38 (3.5)	259 (1.9)	37 (3.5)	257 (2.1)	6 (1.7)	266 (3.0)!
Tennessee	45 (3.7)	258 (1.8)	37 (3.9)	259 (2.5)	36 (3.9)	261 (1.5)	10 (2.3)	255 (3.2)!
Texas	42 (3.3)	263 (2.1)	32 (3.1)	267 (2.2)	44 (3.9)	267 (2.4)	8 (2.1)	257 (4.8)!
Utah	50 (2.8)	276 (1.2)	28 (2.3)	271 (1.7)	15 (1.6)	278 (2.5)	14 (1.8)	268 (2.4)
Virginia	46 (3.2)	269 (2.2)	35 (3.0)	263 (1.6)	19 (2.5)	271 (3.6)	11 (2.0)	265 (3.0)
West Virginia	52 (4.1)	257 (1.6)	39 (3.7)	261 (1.2)	24 (3.3)	264 (2.1)	6 (1.7)	258 (3.9)!
Wisconsin	46 (3.8)	279 (1.8)	44 (4.3)	277 (2.6)	27 (3.6)	281 (3.4)	7 (1.9)	275 (3.9)!
Wyoming	46 (3.2)	273 (1.6)	42 (3.0)	277 (1.4)	12 (1.3)	268 (4.1)	13 (1.6)	276 (1.5)
TERRITORIES								
Guam	51 (1.3)	234 (2.0)	46 (1.3)	239 (1.7)	0 (0.0)	*** (***)	3 (0.2)	*** (***)
Virgin Islands	40 (1.0)	229 (1.6)	32 (1.0)	216 (1.5)	22 (0.8)	225 (2.0)	12 (0.9)	211 (3.3)

TABLE II.18 | Teachers' Reports on Their Exposure to Geometry

PUBLIC SCHOOLS	Grade 4 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	34 (2.1)	215 (1.6)	38 (2.7)	220 (1.4)	29 (2.6)	219 (1.8)	16 (1.7)	214 (1.9)
Northeast	31 (5.1)	222 (4.4)!	43 (8.9)	226 (3.7)!	27 (6.2)	225 (4.1)!	12 (3.8)	210 (5.2)!
Southeast	40 (4.3)	206 (2.6)	36 (4.6)	209 (3.2)	27 (4.2)	208 (3.0)	12 (2.3)	207 (3.6)!
Central	31 (4.8)	218 (3.3)	41 (5.5)	229 (2.1)	23 (5.5)	222 (3.6)!	22 (3.9)	222 (3.4)!
West	32 (3.1)	217 (2.5)	34 (3.5)	217 (2.3)	36 (5.0)	222 (2.8)	19 (3.1)	212 (3.4)
STATES								
Alabama	39 (3.2)	207 (2.4)	37 (3.3)	209 (2.1)	20 (3.1)	208 (3.3)	20 (2.8)	207 (2.2)
Arizona	41 (2.6)	216 (1.5)	35 (2.5)	212 (2.0)	20 (2.3)	221 (1.9)	22 (2.8)	212 (2.2)
Arkansas	40 (3.3)	208 (1.4)	32 (3.4)	208 (1.5)	17 (2.2)	211 (3.0)	23 (2.9)	212 (1.9)
California	38 (3.0)	206 (2.4)	37 (3.5)	206 (2.1)	34 (2.7)	212 (2.6)	15 (2.6)	210 (3.7)
Colorado	37 (2.8)	221 (1.9)	40 (2.7)	219 (1.6)	24 (2.3)	221 (2.3)	16 (2.4)	217 (2.7)
Connecticut	39 (3.2)	228 (2.3)	34 (2.8)	228 (2.1)	40 (3.5)	230 (1.6)	17 (2.6)	224 (3.2)
Delaware	33 (1.0)	215 (1.2)	43 (1.0)	219 (1.4)	15 (0.7)	221 (1.7)	18 (0.8)	214 (2.2)
Dist. Columbia	49 (0.9)	190 (1.1)	32 (0.9)	191 (1.1)	34 (0.9)	193 (1.1)	9 (0.5)	186 (2.1)
Florida	39 (3.6)	213 (1.6)	38 (2.5)	212 (2.2)	32 (2.8)	218 (2.4)	13 (1.8)	208 (3.5)
Georgia	44 (2.9)	215 (1.9)	35 (2.8)	213 (2.1)	23 (2.6)	218 (2.0)	16 (2.0)	212 (2.7)
Hawaii	34 (3.1)	209 (2.5)	44 (3.0)	215 (1.7)	38 (2.6)	213 (2.2)	13 (2.0)	214 (3.2)
Idaho	31 (2.6)	220 (1.5)	50 (3.0)	221 (1.3)	18 (2.2)	223 (1.3)	16 (2.3)	219 (2.2)
Indiana	51 (3.3)	218 (1.6)	42 (3.6)	222 (1.4)	13 (2.2)	220 (3.0)	9 (1.8)	216 (3.6)!
Iowa	29 (3.3)	230 (2.2)	43 (3.4)	230 (1.5)	18 (2.4)	229 (2.7)	24 (2.9)	226 (2.0)
Kentucky	38 (3.6)	215 (1.7)	34 (3.8)	215 (1.5)	12 (1.8)	216 (3.1)	25 (3.1)	210 (2.1)
Louisiana	47 (2.8)	203 (1.8)	34 (3.5)	204 (2.2)	25 (2.9)	212 (2.7)	15 (3.0)	203 (4.0)!
Maine	36 (3.6)	229 (1.7)	34 (3.0)	231 (1.7)	30 (3.9)	234 (1.5)	19 (3.1)	230 (2.2)
Maryland	37 (2.8)	216 (2.1)	43 (3.2)	216 (2.0)	34 (2.9)	219 (2.2)	11 (1.7)	215 (3.1)
Massachusetts	33 (3.3)	227 (2.2)	39 (3.8)	225 (2.0)	24 (3.3)	227 (2.4)	24 (2.8)	225 (2.6)
Michigan	37 (2.9)	214 (2.3)	41 (4.0)	217 (2.6)	36 (3.8)	219 (3.3)	18 (2.9)	225 (2.3)
Minnesota	30 (3.2)	226 (2.1)	43 (2.7)	229 (1.5)	19 (3.0)	224 (2.8)	19 (2.5)	227 (2.2)
Mississippi	47 (3.5)	201 (1.9)	35 (3.3)	199 (2.0)	16 (2.6)	198 (2.6)	17 (2.6)	201 (3.6)
Missouri	50 (3.2)	221 (1.7)	32 (3.3)	221 (2.0)	18 (2.9)	222 (2.8)	16 (2.4)	220 (2.3)
Nebraska	27 (3.2)	224 (2.1)	44 (3.8)	223 (1.6)	18 (2.2)	229 (3.4)	22 (3.0)	227 (2.6)
New Hampshire	34 (3.4)	227 (2.0)	39 (3.3)	230 (2.0)	35 (3.2)	232 (1.8)	12 (1.5)	228 (2.3)
New Jersey	35 (3.4)	226 (2.0)	43 (3.3)	226 (2.6)	21 (3.2)	222 (3.1)	15 (2.4)	229 (3.4)
New Mexico	41 (3.7)	212 (2.1)	42 (3.8)	212 (2.4)	18 (2.7)	212 (2.8)	17 (2.4)	213 (2.4)
New York	30 (2.9)	215 (3.1)	42 (3.1)	219 (1.8)	17 (2.3)	217 (3.7)	22 (2.5)	218 (2.7)
North Carolina	39 (2.9)	214 (2.0)	28 (2.4)	212 (1.9)	34 (2.4)	214 (1.5)	18 (2.3)	209 (2.3)
North Dakota	26 (3.6)	230 (1.4)	42 (3.6)	227 (1.1)	16 (3.0)	227 (2.3)	28 (4.3)	227 (1.7)
Ohio	33 (3.0)	216 (2.2)	46 (2.7)	219 (1.7)	21 (3.0)	216 (2.7)	17 (2.3)	214 (2.5)
Oklahoma	32 (3.1)	220 (1.9)	36 (3.1)	219 (1.3)	9 (1.7)	220 (2.5)	26 (2.8)	219 (1.9)
Pennsylvania	39 (3.0)	223 (2.4)	36 (3.0)	223 (2.2)	16 (2.4)	226 (3.2)	19 (2.3)	222 (2.1)
Rhode Island	25 (2.3)	212 (2.5)	42 (3.3)	216 (2.2)	15 (2.9)	215 (3.2)	30 (3.3)	213 (2.8)
South Carolina	50 (3.4)	210 (1.4)	36 (3.4)	213 (2.4)	26 (3.2)	214 (2.7)	9 (1.6)	209 (3.3)
Tennessee	41 (2.8)	210 (1.8)	34 (2.7)	211 (1.9)	20 (2.5)	211 (3.0)	16 (2.1)	209 (2.2)
Texas	40 (2.6)	217 (1.7)	35 (3.0)	216 (2.4)	28 (3.0)	220 (2.4)	12 (1.6)	213 (2.4)
Utah	32 (2.8)	222 (1.6)	40 (3.3)	225 (1.5)	32 (3.0)	222 (1.5)	18 (2.4)	220 (2.0)
Virginia	37 (3.2)	216 (1.9)	35 (3.0)	221 (2.4)	20 (2.2)	226 (3.5)	22 (2.5)	221 (2.6)
West Virginia	39 (3.4)	215 (1.9)	37 (3.4)	215 (1.7)	14 (2.2)	219 (2.7)	22 (2.8)	208 (2.2)
Wisconsin	26 (2.9)	230 (2.2)	46 (3.0)	228 (1.6)	16 (2.1)	230 (2.8)	22 (2.6)	226 (2.2)
Wyoming	37 (2.8)	225 (1.4)	41 (3.1)	225 (1.6)	19 (2.7)	224 (1.9)	19 (2.2)	223 (1.7)
TERRITORY								
Guam	20 (1.2)	190 (1.9)	50 (1.8)	192 (1.4)	13 (0.8)	194 (2.8)	25 (1.5)	192 (1.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.18 | Teachers' Reports on Their Exposure to Geometry (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	68 (2.5)	270 (1.4)	23 (1.8)	263 (1.8)	24 (2.0)	267 (1.9)	5 (1.2)	262 (3.7)!
Northeast	60 (8.0)	271 (4.2)	30 (4.7)	261 (3.5)	26 (5.8)	268 (5.9)!	8 (3.4)	263 (5.9)!
Southeast	63 (4.3)	264 (1.9)	23 (3.0)	256 (3.2)	33 (4.0)	266 (2.7)	5 (2.8)	247 (4.2)!
Central	77 (5.0)	276 (2.4)	18 (3.3)	270 (6.1)	16 (3.8)	262 (5.5)!	4 (2.5)	*** (***)
West	72 (3.3)	269 (2.9)	23 (3.5)	265 (3.3)	21 (2.4)	263 (2.9)	4 (1.0)	260 (5.8)!
STATES								
Alabama	78 (3.7)	253 (1.9)	17 (3.6)	247 (3.3)!	25 (3.4)	255 (2.9)	6 (1.6)	240 (5.6)!
Arizona	55 (3.6)	266 (1.4)	24 (2.7)	265 (2.4)	18 (3.1)	265 (3.2)	9 (1.7)	256 (6.2)
Arkansas	84 (2.9)	256 (1.3)	12 (2.8)	255 (3.8)!	26 (3.7)	258 (2.5)	2 (1.2)	*** (***)
California	58 (3.4)	265 (1.9)	20 (2.6)	264 (4.1)	27 (2.9)	262 (3.7)	13 (1.7)	249 (4.4)
Colorado	68 (2.8)	272 (1.2)	25 (2.8)	273 (2.2)	17 (2.2)	275 (2.2)	8 (1.6)	268 (3.9)!
Connecticut	71 (2.7)	276 (1.3)	21 (2.5)	273 (2.8)	27 (2.8)	278 (2.5)	8 (1.4)	269 (5.0)
Delaware	75 (0.7)	265 (1.1)	17 (0.7)	259 (2.0)	17 (0.9)	261 (2.1)	6 (0.5)	241 (4.2)
Dist. Columbia	66 (0.9)	233 (1.0)	23 (0.9)	233 (2.4)	25 (0.9)	233 (1.7)	3 (0.5)	*** (***)
Florida	65 (3.3)	262 (1.5)	19 (2.9)	258 (3.4)	20 (2.4)	263 (3.3)	10 (1.5)	250 (5.0)
Georgia	71 (2.9)	260 (1.2)	16 (2.3)	256 (3.7)	22 (2.9)	259 (2.7)	8 (1.3)	257 (4.9)
Hawaii	65 (0.9)	261 (1.0)	16 (0.7)	251 (2.3)	16 (0.7)	257 (2.0)	11 (0.5)	245 (2.1)
Idaho	68 (3.1)	276 (1.0)	26 (3.0)	273 (2.0)	16 (2.6)	274 (2.1)	7 (1.7)	270 (4.5)!
Indiana	86 (1.9)	270 (1.3)	15 (2.6)	266 (3.0)	9 (2.4)	274 (4.0)!	3 (1.1)	252 (9.0)!
Iowa	74 (3.6)	284 (1.1)	18 (3.3)	284 (2.5)	20 (3.5)	283 (2.0)	6 (1.7)	271 (3.2)!
Kentucky	65 (2.7)	265 (1.5)	23 (2.9)	261 (2.7)	21 (3.0)	265 (3.0)	13 (1.9)	251 (2.9)
Louisiana	68 (3.9)	250 (2.2)	22 (3.6)	255 (2.7)	20 (3.5)	249 (3.7)	9 (1.9)	236 (4.5)!
Maine	68 (3.6)	279 (1.4)	19 (2.9)	278 (2.3)	16 (2.9)	284 (2.6)	11 (2.9)	269 (2.8)!
Maryland	70 (3.5)	267 (1.7)	23 (3.1)	261 (3.2)	29 (3.3)	265 (2.8)	4 (1.3)	254(10.4)!
Massachusetts	68 (3.7)	274 (1.4)	25 (3.6)	271 (2.4)	10 (2.2)	277 (3.5)!	9 (2.0)	266 (4.3)!
Michigan	62 (3.9)	268 (2.1)	23 (3.2)	268 (3.0)	24 (3.9)	268 (4.0)	11 (2.3)	265 (4.4)!
Minnesota	87 (2.4)	282 (1.0)	12 (2.4)	283 (2.8)!	11 (2.3)	281 (3.3)!	3 (1.1)	264 (8.5)!
Mississippi	65 (4.0)	245 (1.4)	23 (3.4)	246 (2.7)	20 (3.0)	247 (3.6)	8 (2.0)	242 (4.8)!
Missouri	79 (2.9)	273 (1.2)	14 (2.5)	265 (3.2)	26 (3.8)	272 (2.1)	5 (1.5)	263 (4.7)!
Nebraska	80 (3.6)	277 (1.3)	16 (2.9)	281 (3.0)	15 (2.8)	273 (2.3)	6 (2.2)	273 (5.3)!
New Hampshire	75 (3.6)	277 (1.0)	18 (3.2)	280 (2.2)	28 (3.7)	279 (2.2)	3 (1.2)	263 (4.8)!
New Jersey	60 (3.9)	279 (2.2)	33 (4.0)	264 (3.9)	31 (3.9)	265 (3.9)	5 (1.2)	264 (6.0)!
New Mexico	68 (3.3)	260 (1.1)	27 (3.0)	260 (1.7)	20 (2.5)	265 (1.6)	6 (1.2)	249 (3.6)
New York	75 (3.3)	267 (2.3)	18 (3.1)	265 (4.1)	20 (3.3)	264 (4.6)	6 (1.8)	259 (7.8)!
North Carolina	63 (3.6)	260 (1.4)	23 (3.1)	256 (2.4)	22 (3.0)	263 (1.7)	8 (1.4)	246 (4.9)
North Dakota	81 (2.3)	283 (1.3)	14 (2.4)	282 (2.2)	21 (3.1)	287 (2.1)	4 (1.2)	280 (2.3)!
Ohio	60 (5.9)	268 (2.1)	31 (4.1)	268 (3.9)	20 (3.1)	264 (5.0)	8 (2.4)	261 (7.1)!
Oklahoma	75 (3.4)	270 (1.4)	19 (3.1)	265 (2.6)	13 (2.9)	267 (4.5)!	7 (2.2)	250 (3.4)!
Pennsylvania	82 (2.2)	273 (1.5)	15 (2.3)	270 (3.3)	10 (1.8)	268 (7.1)	4 (1.1)	249 (6.9)!
Rhode Island	76 (0.7)	265 (0.9)	23 (0.7)	262 (1.6)	25 (0.7)	267 (1.9)	4 (0.3)	259 (2.4)
South Carolina	72 (2.7)	263 (1.4)	24 (2.6)	253 (2.8)	32 (3.1)	260 (2.1)	3 (1.2)	260 (7.1)!
Tennessee	57 (3.8)	261 (1.7)	26 (3.4)	256 (2.6)	32 (3.6)	261 (1.9)	12 (2.8)	253 (3.8)!
Texas	79 (2.6)	265 (1.3)	13 (2.1)	262 (3.8)	32 (3.8)	267 (2.6)	6 (1.6)	262 (7.0)!
Utah	73 (2.2)	275 (1.1)	14 (1.3)	271 (2.1)	16 (1.9)	275 (2.2)	9 (1.6)	269 (3.5)
Virginia	74 (2.8)	269 (1.6)	17 (2.3)	264 (2.3)	13 (2.0)	274 (4.9)	7 (1.7)	254 (4.7)!
West Virginia	78 (3.2)	260 (1.3)	16 (3.3)	260 (1.8)	16 (2.9)	265 (2.3)	9 (1.9)	249 (3.0)
Wisconsin	73 (3.7)	281 (1.6)	21 (3.4)	270 (2.5)	26 (3.7)	280 (2.3)	6 (1.3)	265 (5.9)!
Wyoming	85 (1.9)	275 (1.0)	15 (1.9)	278 (1.8)	8 (2.2)	263 (4.1)!	4 (0.6)	266 (4.4)
TERRITORIES								
Guam	64 (1.1)	233 (1.6)	30 (1.0)	243 (1.7)	0 (0.0)	*** (***)	6 (0.8)	233 (2.5)
Virgin Islands	41 (0.8)	229 (1.4)	26 (1.0)	218 (1.5)	23 (0.5)	219 (2.0)	20 (1.0)	210 (2.2)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 11.19 | Teachers' Reports on Their Exposure to Probability and Statistics

PUBLIC SCHOOLS	Grade 4 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	46 (2.4)	217 (1.4)	23 (2.0)	219 (1.7)	21 (2.2)	223 (1.9)	23 (2.1)	216 (1.6)
Northeast	51 (5.3)	222 (4.0)	24 (4.9)	225 (4.5)!	20 (4.7)	222 (4.7)!	22 (5.9)	222 (3.7)!
Southeast	53 (5.1)	208 (2.8)	23 (2.9)	209 (3.5)	15 (2.1)	212 (5.7)	20 (2.7)	206 (2.5)
Central	40 (5.7)	221 (2.8)	24 (5.1)	225 (3.3)	19 (4.7)	227 (2.9)!	24 (4.6)	227 (3.3)!
West	41 (3.3)	218 (2.1)	23 (3.2)	216 (3.2)	29 (5.0)	225 (2.7)	26 (3.9)	210 (2.8)
STATES								
Alabama	51 (3.5)	206 (1.9)	24 (2.8)	209 (2.5)	13 (2.5)	211 (4.0)	23 (3.0)	207 (2.7)
Arizona	43 (2.3)	215 (1.5)	25 (2.3)	210 (2.4)	14 (1.9)	219 (2.5)	29 (2.6)	215 (2.1)
Arkansas	48 (3.3)	209 (1.8)	22 (2.8)	210 (2.1)	13 (1.9)	207 (2.3)	25 (2.7)	209 (1.8)
California	46 (3.3)	208 (2.0)	27 (2.4)	204 (2.3)	30 (3.1)	210 (2.8)	20 (2.7)	207 (3.4)
Colorado	38 (2.6)	221 (2.0)	30 (2.2)	220 (1.9)	16 (2.4)	225 (2.7)	26 (2.4)	216 (2.1)
Connecticut	53 (2.9)	227 (1.4)	25 (3.1)	227 (2.3)	25 (3.1)	230 (2.1)	16 (2.4)	224 (3.7)
Delaware	50 (1.1)	219 (0.9)	32 (0.9)	214 (1.3)	8 (0.6)	219 (2.1)	17 (0.7)	214 (2.5)
Dist. Columbia	50 (0.7)	191 (1.2)	25 (1.0)	190 (1.5)	27 (0.8)	193 (1.1)	13 (0.6)	191 (2.1)
Florida	43 (2.6)	214 (2.1)	26 (2.6)	212 (2.4)	22 (3.1)	217 (2.6)	26 (2.7)	212 (2.4)
Georgia	45 (2.8)	212 (1.6)	29 (2.5)	213 (2.3)	11 (1.7)	219 (2.4)	25 (2.2)	215 (2.2)
Hawaii	44 (2.5)	211 (2.0)	31 (2.6)	214 (1.6)	24 (2.4)	210 (2.7)	22 (2.2)	215 (2.2)
Idaho	32 (2.9)	220 (1.5)	39 (2.9)	220 (1.4)	11 (1.8)	221 (2.0)	27 (2.9)	221 (1.6)
Indiana	45 (2.6)	218 (1.2)	33 (3.5)	221 (1.8)	9 (1.7)	224 (3.7)!	21 (2.9)	220 (2.6)
Iowa	35 (3.0)	230 (1.9)	29 (3.1)	228 (2.1)	13 (2.4)	230 (3.1)	33 (3.4)	229 (1.6)
Kentucky	40 (3.8)	215 (1.8)	27 (3.2)	212 (2.0)	14 (2.3)	217 (3.5)	29 (3.2)	212 (1.7)
Louisiana	41 (2.9)	201 (2.3)	26 (2.7)	204 (2.7)	18 (2.6)	211 (3.5)	24 (3.1)	204 (2.5)
Maine	33 (3.7)	231 (1.6)	31 (3.1)	231 (1.9)	23 (3.2)	235 (2.4)	24 (3.1)	228 (2.0)
Maryland	46 (3.0)	218 (1.7)	31 (2.8)	217 (2.3)	24 (2.4)	223 (2.8)	18 (2.0)	214 (3.6)
Massachusetts	47 (3.5)	228 (1.9)	27 (3.0)	225 (2.3)	19 (2.8)	233 (2.0)	26 (3.3)	221 (3.0)
Michigan	45 (4.0)	217 (2.2)	30 (3.6)	216 (3.1)	30 (3.7)	217 (3.5)	19 (3.0)	227 (3.0)
Minnesota	39 (3.4)	229 (1.2)	30 (3.1)	228 (2.2)	13 (2.5)	227 (2.7)	30 (3.0)	227 (2.0)
Mississippi	48 (3.5)	200 (1.7)	26 (2.9)	198 (2.7)	11 (2.5)	197 (3.4)!	23 (2.3)	199 (2.2)
Missouri	34 (2.6)	220 (1.9)	23 (2.9)	220 (3.3)	14 (2.4)	223 (2.5)	32 (3.1)	222 (1.7)
Nebraska	32 (3.4)	220 (1.9)	30 (2.9)	225 (1.8)	12 (2.4)	232 (3.8)!	30 (2.6)	225 (1.8)
New Hampshire	39 (3.1)	229 (1.7)	21 (3.1)	230 (2.1)	20 (3.3)	229 (2.8)	31 (3.2)	231 (2.0)
New Jersey	42 (3.3)	229 (2.2)	29 (2.9)	224 (3.0)	11 (2.6)	230 (3.3)!	27 (2.9)	223 (2.6)
New Mexico	42 (3.6)	212 (2.0)	29 (4.1)	212 (2.6)	9 (2.2)	214 (3.3)!	29 (3.5)	212 (2.3)
New York	50 (3.4)	215 (2.0)	31 (2.7)	219 (2.2)	19 (2.5)	219 (3.3)	14 (1.7)	218 (2.3)
North Carolina	39 (2.6)	214 (1.6)	20 (2.6)	211 (2.2)	23 (2.2)	214 (2.1)	29 (3.1)	211 (1.8)
North Dakota	34 (3.8)	229 (1.2)	27 (3.6)	226 (1.5)	10 (2.5)	227 (3.1)!	37 (4.0)	227 (1.6)
Ohio	45 (3.1)	217 (1.9)	30 (2.5)	219 (1.8)	16 (2.5)	215 (2.2)	23 (2.6)	217 (2.6)
Oklahoma	42 (3.5)	219 (1.5)	23 (2.7)	219 (1.9)	3 (0.9)	222 (5.5)!	32 (2.9)	219 (1.7)
Pennsylvania	44 (3.5)	225 (2.1)	22 (2.3)	220 (3.0)	10 (1.9)	227 (4.2)	31 (3.1)	223 (2.1)
Rhode Island	39 (2.6)	214 (1.9)	32 (2.6)	214 (2.3)	11 (1.9)	218 (2.9)	29 (2.3)	215 (2.9)
South Carolina	45 (3.4)	212 (1.7)	25 (3.0)	213 (2.8)	12 (1.9)	213 (3.5)	28 (2.9)	210 (1.7)
Tennessee	47 (2.9)	209 (1.8)	24 (2.5)	210 (2.5)	11 (2.1)	213 (3.6)	25 (2.2)	209 (2.3)
Texas	35 (2.7)	218 (2.1)	28 (3.2)	213 (2.6)	29 (2.8)	221 (2.3)	20 (2.4)	217 (3.3)
Utah	29 (2.6)	224 (1.6)	28 (2.5)	221 (1.9)	19 (2.2)	223 (1.9)	33 (2.9)	223 (1.8)
Virginia	41 (3.3)	218 (2.1)	26 (2.6)	221 (2.8)	10 (1.9)	230 (5.1)	31 (3.0)	220 (2.2)
West Virginia	40 (3.3)	214 (1.9)	27 (2.9)	214 (1.6)	13 (2.0)	217 (2.7)	31 (2.6)	213 (1.9)
Wisconsin	37 (3.2)	227 (1.8)	38 (3.5)	229 (1.9)	10 (1.9)	232 (3.3)	25 (3.2)	230 (2.0)
Wyoming	41 (3.3)	225 (1.4)	34 (3.1)	224 (1.6)	17 (2.7)	223 (2.0)	22 (2.7)	224 (1.7)
TERRITORY								
Guam	37 (0.9)	195 (1.7)	43 (1.2)	193 (1.7)	13 (1.0)	199 (2.6)	26 (0.9)	182 (1.6)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.19 | **Teachers' Reports on Their Exposure to Probability and Statistics (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	69 (2.7)	267 (1.5)	21 (2.0)	268 (2.2)	17 (1.7)	267 (2.1)	7 (1.2)	264 (5.5)
Northeast	72 (5.6)	267 (4.1)	24 (5.8)	258 (4.5)!	19 (4.1)	272 (5.5)!	11 (4.2)	272(15.5)!
Southeast	66 (5.7)	262 (1.8)	22 (2.7)	258 (3.6)	18 (3.4)	264 (3.4)!	6 (2.3)	256 (4.0)!
Central	74 (6.2)	273 (2.9)	21 (4.7)	279 (4.5)!	17 (4.0)	267 (5.1)!	2 (1.0)	*** (***)
West	67 (3.8)	266 (2.8)	20 (3.1)	275 (4.1)	16 (2.3)	267 (3.0)	8 (1.7)	262 (5.9)!
STATES								
Alabama	70 (3.7)	251 (2.1)	19 (3.4)	256 (2.7)	24 (3.1)	250 (5.1)	8 (2.0)	243 (5.1)!
Arizona	64 (3.0)	265 (1.5)	16 (2.6)	266 (3.0)	17 (2.9)	267 (3.0)	10 (2.1)	258 (6.0)
Arkansas	72 (3.5)	255 (1.5)	17 (2.9)	259 (3.1)	18 (3.0)	257 (3.2)	7 (2.1)	255 (4.0)!
California	60 (3.1)	262 (2.1)	26 (3.3)	266 (3.6)	24 (2.9)	265 (4.1)	10 (1.7)	254 (4.8)
Colorado	69 (2.6)	273 (1.2)	24 (2.7)	270 (2.6)	17 (2.2)	275 (2.3)	8 (1.6)	267 (3.8)!
Connecticut	78 (3.2)	274 (1.2)	19 (2.6)	274 (2.9)	25 (3.0)	277 (2.7)	4 (1.2)	261 (8.2)!
Delaware	77 (0.7)	264 (1.1)	15 (0.8)	258 (1.4)	18 (0.8)	263 (1.9)	6 (0.6)	246 (4.6)
Dist. Columbia	84 (0.6)	233 (0.9)	12 (0.6)	236 (3.2)	17 (0.8)	226 (2.1)	5 (0.6)	249 (7.4)
Florida	70 (2.8)	262 (1.5)	18 (2.7)	257 (3.1)	16 (2.4)	261 (3.5)	10 (2.1)	250 (4.8)!
Georgia	65 (3.1)	261 (1.2)	22 (2.5)	256 (3.2)	16 (2.3)	256 (2.7)	12 (1.7)	256 (3.6)
Hawaii	72 (0.9)	259 (0.9)	12 (0.7)	255 (2.9)	10 (0.5)	254 (2.6)	10 (0.5)	246 (1.9)
Idaho	71 (2.4)	275 (0.8)	16 (2.1)	276 (2.1)	9 (1.4)	276 (2.8)	12 (1.5)	267 (2.3)
Indiana	83 (3.3)	271 (1.3)	17 (3.7)	269 (3.9)!	8 (1.7)	273 (5.6)!	4 (1.3)	254 (8.7)!
Iowa	73 (3.5)	284 (1.2)	15 (3.0)	285 (2.6)	10 (2.7)	283 (2.7)!	11 (2.5)	275 (2.6)!
Kentucky	67 (3.3)	265 (1.4)	22 (3.1)	260 (3.2)	19 (3.3)	265 (2.7)	13 (2.3)	250 (2.8)
Louisiana	60 (3.7)	250 (2.3)	24 (3.5)	250 (2.5)	19 (3.6)	247 (4.6)	9 (2.0)	247 (5.6)!
Maine	69 (3.7)	279 (1.3)	19 (2.9)	275 (2.5)	18 (3.0)	283 (2.6)	9 (2.3)	277 (3.3)!
Maryland	73 (3.5)	269 (1.9)	21 (3.2)	257 (3.0)	31 (3.6)	267 (3.3)	3 (1.1)	250 (8.2)!
Massachusetts	78 (3.4)	273 (1.5)	18 (2.6)	272 (4.0)	5 (1.5)	281 (5.3)!	6 (1.8)	258 (5.7)!
Michigan	65 (3.7)	270 (2.2)	19 (2.8)	266 (3.4)	22 (3.5)	267 (4.2)	10 (1.9)	263 (4.9)
Minnesota	88 (2.6)	282 (1.0)	12 (2.4)	286 (2.3)!	10 (1.8)	279 (3.2)	1 (0.5)	*** (***)
Mississippi	62 (3.6)	246 (1.7)	22 (3.1)	247 (2.8)	13 (2.3)	240 (3.7)	12 (2.3)	245 (4.3)
Missouri	75 (3.0)	273 (1.2)	17 (2.5)	266 (2.8)	17 (3.1)	273 (2.6)	7 (1.5)	264 (4.4)!
Nebraska	74 (3.7)	277 (1.3)	17 (2.8)	285 (2.3)	17 (3.6)	274 (2.4)!	7 (2.0)	273 (4.5)!
New Hampshire	79 (3.5)	277 (0.9)	10 (2.4)	286 (3.1)!	24 (4.0)	278 (2.1)	3 (1.5)	265 (6.6)!
New Jersey	65 (4.0)	278 (2.0)	22 (3.9)	265 (4.8)	24 (3.4)	264 (4.8)	9 (2.5)	254 (9.6)!
New Mexico	79 (2.1)	260 (1.1)	14 (2.0)	263 (2.5)	19 (1.9)	267 (1.8)	6 (1.3)	249 (4.3)!
New York	79 (2.6)	267 (2.3)	16 (2.6)	267 (4.2)	14 (2.6)	260 (6.3)	5 (1.4)	257 (7.5)!
North Carolina	60 (3.6)	259 (1.5)	23 (3.1)	258 (2.0)	22 (2.9)	263 (1.8)	11 (2.1)	250 (3.5)
North Dakota	77 (2.9)	282 (1.3)	13 (2.2)	282 (2.3)	20 (3.1)	288 (2.2)	5 (1.6)	281 (2.3)!
Ohio	66 (4.3)	269 (2.1)	25 (3.6)	260 (4.0)	22 (3.3)	268 (3.6)	7 (2.0)	268 (5.9)!
Oklahoma	62 (4.2)	269 (1.5)	24 (3.5)	266 (2.0)	10 (2.4)	269 (4.7)!	13 (2.4)	262 (3.2)
Pennsylvania	81 (2.5)	272 (1.8)	17 (2.0)	271 (3.2)	10 (2.3)	281 (4.3)!	6 (1.6)	258 (6.4)!
Rhode Island	80 (0.5)	265 (0.8)	18 (0.5)	267 (2.0)	15 (0.5)	270 (2.0)	3 (0.1)	257 (2.0)
South Carolina	70 (3.4)	263 (1.3)	20 (2.8)	258 (3.3)	18 (2.8)	260 (2.5)	11 (2.1)	250 (3.4)
Tennessee	57 (4.0)	260 (1.8)	26 (3.4)	256 (2.5)	21 (3.1)	261 (2.6)	14 (2.7)	255 (2.9)
Texas	69 (3.1)	264 (1.4)	25 (2.8)	264 (3.1)	32 (3.0)	269 (2.6)	5 (1.3)	255 (4.6)!
Utah	67 (2.5)	274 (1.0)	20 (2.2)	276 (1.5)	8 (1.5)	275 (4.1)	11 (1.5)	270 (3.5)
Virginia	77 (3.0)	269 (1.4)	14 (2.4)	263 (2.8)	12 (1.9)	271 (3.9)	8 (1.8)	255 (4.5)!
West Virginia	68 (3.6)	259 (1.3)	25 (3.6)	257 (1.7)	12 (2.4)	266 (3.1)	7 (1.6)	246 (4.1)
Wisconsin	69 (3.5)	279 (1.7)	24 (3.4)	278 (3.9)	28 (3.5)	283 (2.8)	7 (1.7)	266 (3.6)!
Wyoming	80 (2.6)	275 (1.1)	20 (2.5)	277 (1.7)	8 (1.9)	266 (4.8)!	8 (1.3)	269 (3.3)
TERRITORIES								
Guam	70 (0.7)	234 (1.4)	25 (0.7)	243 (2.1)	0 (0.0)	*** (***)	5 (0.3)	229 (4.7)
Virgin Islands	46 (1.1)	226 (1.4)	42 (0.9)	216 (1.4)	6 (0.4)	235 (3.5)	16 (0.9)	218 (1.9)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 11.20 | Teachers' Reports on Their Exposure to Abstract or Linear Algebra

PUBLIC SCHOOLS	Grade 4 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	31 (2.3)	213 (1.7)	21 (2.0)	220 (2.4)	8 (1.3)	222 (4.1)	46 (2.5)	219 (1.3)
Northeast	29 (3.3)	219 (4.0)	24 (3.9)	226 (5.2)!	3 (0.9)	*** (***)	45 (3.9)	224 (3.3)
Southeast	37 (4.8)	204 (2.7)	21 (3.7)	210 (4.1)	3 (1.5)	*** (***)	40 (4.8)	210 (2.0)
Central	26 (5.8)	218 (4.1)!	20 (3.9)	222 (3.1)	8 (3.0)	227 (4.3)!	53 (5.9)	228 (2.3)
West	31 (3.3)	216 (2.9)	20 (4.0)	223 (5.7)	14 (3.1)	227 (6.3)!	43 (4.2)	215 (2.1)
STATES								
Alabama	31 (3.0)	206 (2.4)	22 (2.9)	207 (3.2)	3 (1.3)	215 (8.2)!	48 (3.3)	209 (1.9)
Arizona	35 (2.7)	216 (1.6)	21 (2.8)	212 (2.3)	7 (1.2)	225 (2.4)	44 (2.8)	212 (1.7)
Arkansas	26 (2.7)	210 (1.8)	16 (2.7)	206 (2.4)	2 (0.7)	*** (***)	56 (3.3)	209 (1.3)
California	37 (2.9)	207 (2.6)	24 (2.4)	207 (2.4)	13 (2.2)	212 (4.6)	33 (3.1)	207 (2.4)
Colorado	25 (2.7)	219 (2.8)	20 (2.0)	219 (2.0)	8 (1.7)	221 (3.2)!	51 (2.9)	220 (1.3)
Connecticut	32 (3.0)	227 (2.5)	23 (2.7)	225 (2.6)	7 (1.6)	233 (3.3)!	41 (3.2)	228 (1.7)
Delaware	24 (1.1)	220 (1.9)	25 (1.1)	214 (1.4)	5 (0.4)	221 (3.9)	49 (0.9)	217 (1.0)
Dist. Columbia	31 (0.8)	188 (1.3)	30 (1.0)	190 (1.3)	18 (0.5)	193 (1.5)	31 (0.8)	191 (1.3)
Florida	31 (3.1)	215 (1.7)	21 (2.5)	209 (3.0)	8 (1.7)	212 (3.4)!	45 (3.4)	213 (2.3)
Georgia	36 (2.7)	214 (1.8)	21 (2.4)	213 (2.3)	2 (0.9)	222 (3.5)!	45 (2.9)	214 (2.2)
Hawaii	32 (2.7)	212 (2.3)	28 (2.6)	215 (1.7)	8 (1.6)	210 (3.5)	38 (2.6)	213 (2.1)
Idaho	27 (2.6)	218 (1.6)	26 (2.9)	221 (1.8)	5 (1.3)	218 (3.2)!	48 (3.4)	221 (1.1)
Indiana	22 (2.0)	217 (2.0)	29 (3.2)	221 (1.9)	3 (1.5)	*** (***)	47 (3.5)	219 (1.4)
Iowa	20 (2.9)	233 (2.2)	21 (2.6)	226 (2.0)	3 (1.0)	230 (4.9)!	58 (3.6)	229 (1.5)
Kentucky	26 (3.2)	215 (2.1)	17 (2.8)	212 (2.9)	2 (0.8)	*** (***)	56 (3.5)	213 (1.2)
Louisiana	33 (2.9)	201 (2.4)	27 (3.0)	205 (2.1)	10 (2.0)	213 (4.9)!	38 (3.4)	205 (2.4)
Maine	23 (2.9)	228 (1.7)	28 (2.9)	232 (1.6)	6 (2.2)	230 (4.5)!	47 (3.3)	231 (1.7)
Maryland	28 (2.4)	220 (2.2)	29 (2.6)	214 (2.6)	4 (1.2)	228 (5.6)!	44 (2.8)	216 (2.2)
Massachusetts	29 (3.3)	228 (2.3)	24 (2.7)	224 (2.0)	6 (2.4)	231 (3.9)!	46 (3.5)	225 (1.9)
Michigan	30 (3.1)	214 (3.3)	27 (3.5)	217 (3.6)	16 (2.7)	207 (4.1)	40 (3.2)	222 (2.6)
Minnesota	17 (1.9)	227 (1.8)	23 (2.7)	228 (1.9)	3 (1.4)	232 (6.1)!	56 (3.0)	227 (1.4)
Mississippi	36 (3.3)	197 (2.1)	18 (2.7)	197 (2.9)	6 (1.9)	199 (5.2)!	45 (3.0)	203 (1.6)
Missouri	36 (2.9)	221 (2.2)	18 (2.3)	220 (2.8)	3 (1.1)	216 (5.4)!	44 (2.9)	223 (1.3)
Nebraska	15 (2.8)	220 (3.2)	22 (2.2)	223 (2.4)	5 (1.3)	237 (5.7)!	60 (2.9)	225 (1.4)
New Hampshire	27 (2.6)	228 (2.0)	18 (2.8)	232 (2.5)	8 (2.2)	228 (2.7)!	50 (3.2)	229 (1.6)
New Jersey	30 (2.8)	224 (2.7)	28 (3.3)	225 (2.9)	5 (1.8)	231 (6.4)!	43 (3.6)	228 (2.3
New Mexico	38 (3.3)	211 (1.7)	20 (2.8)	213 (3.0)	6 (1.7)	211 (7.8)!	41 (3.4)	211 (1.9)
New York	31 (2.9)	215 (2.1)	27 (2.4)	220 (2.2)	3 (1.0)	200(10.1)!	42 (3.1)	219 (2.2)
North Carolina	30 (2.9)	215 (2.0)	18 (2.6)	209 (2.4)	9 (1.6)	212 (3.5)	48 (3.2)	212 (1.5)
North Dakota	16 (3.1)	229 (1.9)!	21 (3.5)	226 (1.9)	2 (1.0)	*** (***)	60 (3.6)	228 (1.1)
Ohio	26 (3.5)	217 (2.4)	30 (3.2)	220 (1.9)	7 (1.8)	215 (4.0)!	44 (3.4)	216 (2.0)
Oklahoma	26 (2.6)	221 (1.9)	19 (2.3)	218 (2.2)	3 (1.1)	222 (5.3)!	51 (3.2)	219 (1.2)
Pennsylvania	22 (2.8)	227 (3.4)	16 (2.1)	218 (3.0)	2 (0.7)	*** (***)	59 (3.0)	224 (1.5)
Rhode Island	23 (2.4)	215 (2.3)	25 (2.3)	214 (3.2)	2 (0.8)	*** (***)	52 (2.7)	215 (1.9)
South Carolina	31 (3.4)	210 (1.7)	16 (2.4)	215 (3.2)	3 (0.8)	202 (4.5)!	51 (3.6)	211 (1.8)
Tennessee	28 (3.1)	207 (1.9)	19 (2.4)	210 (2.5)	4 (1.0)	206 (5.8)!	49 (3.4)	211 (1.6)
Texas	35 (3.3)	217 (2.0)	25 (3.6)	218 (2.3)	8 (1.7)	222 (4.3)!	37 (3.2)	216 (2.6)
Utah	31 (3.0)	223 (1.6)	20 (2.4)	221 (1.7)	7 (1.4)	228 (3.3)	44 (3.3)	223 (1.7)
Virginia	25 (2.5)	217 (2.8)	23 (2.6)	217 (2.7)	3 (0.9)	234(12.6)!	51 (3.1)	221 (1.8)
West Virginia	23 (2.7)	215 (2.3)	22 (2.8)	213 (2.2)	2 (1.2)	221 (5.0)!	54 (3.0)	214 (1.3)
Wisconsin	22 (2.7)	226 (2.3)	25 (2.9)	229 (2.1)	4 (1.2)	234 (7.1)!	53 (3.7)	228 (1.4)
Wyoming	29 (2.8)	226 (1.7)	23 (2.7)	223 (2.1)	5 (1.5)	222 (3.5)!	47 (3.5)	224 (1.3)
TERRITORY								
Guam	16 (1.0)	191 (2.8)	45 (1.7)	193 (1.2)	5 (0.8)	196 (5.8)	40 (1.5)	189 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.20 | Teachers' Reports on Their Exposure to Abstract or Linear Algebra (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	70 (2.4)	269 (1.4)	14 (1.5)	262 (2.8)	10 (1.6)	270 (4.4)	13 (1.8)	264 (2.5)
Northeast	68 (6.7)	270 (4.0)	21 (4.7)	257 (4.3)!	15 (4.9)	281 (7.3)!	16 (3.2)	255 (4.4)!
Southeast	68 (5.3)	262 (1.9)	11 (2.5)	251 (7.9)!	17 (4.3)	263 (5.3)!	12 (3.4)	257 (7.2)!
Central	73 (5.0)	276 (2.4)	12 (2.2)	274 (7.3)	8 (2.1)	264(13.9)!	10 (3.0)	275 (3.4)!
West	71 (3.4)	267 (3.0)	15 (2.9)	266 (4.2)!	4 (0.9)	272 (6.9)!	15 (3.8)	268 (3.7)!
STATES								
Alabama	75 (3.9)	253 (1.9)	16 (3.6)	251 (3.1)!	14 (3.1)	248 (4.0)!	8 (1.8)	244 (5.0)!
Arizona	64 (3.2)	268 (1.5)	14 (2.8)	260 (3.1)	10 (2.2)	270 (4.1)!	19 (2.5)	259 (3.0)
Arkansas	75 (3.4)	257 (1.4)	10 (2.2)	254 (3.1)!	4 (1.7)	254 (6.7)!	14 (2.9)	254 (4.1)!
California	57 (3.4)	263 (2.1)	15 (2.4)	261 (5.3)	10 (2.3)	262 (8.6)!	23 (2.9)	258 (3.1)
Colorado	73 (2.8)	273 (1.3)	18 (2.1)	272 (2.9)	6 (1.5)	274 (3.9)!	11 (1.8)	266 (3.7)
Connecticut	74 (3.2)	277 (1.1)	13 (2.3)	274 (2.9)	7 (1.9)	278 (4.0)!	13 (2.2)	258 (4.2)
Delaware	72 (0.6)	266 (1.1)	17 (0.7)	256 (1.9)	7 (0.5)	267 (2.7)	12 (0.5)	247 (2.8)
Dist. Columbia	75 (1.1)	235 (1.0)	15 (0.8)	226 (2.5)	13 (0.7)	232 (2.3)	5 (0.3)	237 (3.1)
Florida	69 (2.9)	262 (1.3)	15 (2.3)	254 (3.7)	9 (1.8)	256 (5.1)!	13 (1.9)	252 (4.8)
Georgia	64 (2.9)	261 (1.5)	14 (1.8)	253 (3.3)	9 (2.2)	260 (3.1)!	19 (2.7)	252 (3.3)
Hawaii	65 (1.0)	260 (1.1)	14 (0.7)	258 (2.5)	7 (0.4)	256 (2.6)	16 (0.5)	241 (1.4)
Idaho	68 (2.5)	276 (1.0)	18 (2.3)	273 (2.3)	7 (1.6)	277 (3.5)!	12 (1.8)	268 (2.5)
Indiana	85 (2.5)	271 (1.3)	13 (3.0)	266 (2.8)!	6 (1.7)	271 (5.3)!	6 (1.5)	258 (5.2)!
Iowa	76 (2.9)	284 (1.1)	14 (2.7)	287 (2.7)	6 (2.3)	279 (4.9)!	11 (2.3)	273 (2.6)!
Kentucky	61 (3.5)	265 (1.6)	14 (2.7)	262 (3.3)!	10 (2.2)	264 (4.1)!	26 (3.5)	255 (2.1)
Louisiana	66 (3.8)	251 (2.1)	17 (2.9)	251 (3.4)	13 (2.9)	244 (4.8)!	14 (2.2)	244 (3.9)
Maine	62 (3.5)	282 (1.2)	17 (2.8)	272 (2.5)	3 (1.2)	289 (3.5)!	20 (3.4)	273 (2.0)
Maryland	72 (3.6)	268 (1.6)	22 (3.4)	259 (3.6)	12 (2.7)	261 (3.9)!	8 (1.8)	262 (5.0)!
Massachusetts	78 (3.1)	274 (1.5)	14 (2.6)	270 (4.3)	4 (1.1)	275 (7.8)!	9 (2.3)	259 (4.0)!
Michigan	68 (3.4)	270 (2.1)	13 (2.2)	263 (3.8)	8 (2.0)	274 (4.4)!	17 (2.6)	257 (3.4)
Minnesota	90 (2.3)	283 (1.0)	6 (1.8)	287 (3.5)!	4 (1.4)	280 (4.9)!	4 (1.5)	259 (5.8)!
Mississippi	63 (3.9)	246 (1.3)	17 (3.4)	254 (3.4)!	8 (2.3)	244 (5.4)!	18 (3.0)	241 (3.3)
Missouri	74 (3.1)	272 (1.2)	14 (2.6)	272 (2.8)	5 (1.7)	263 (4.8)!	10 (1.9)	263 (3.5)
Nebraska	79 (3.8)	277 (1.3)	9 (2.3)	284 (3.4)!	4 (1.7)	266 (3.0)!	11 (2.7)	273 (3.8)!
New Hampshire	82 (3.1)	278 (1.0)	6 (2.1)	278 (4.7)!	11 (2.4)	280 (3.1)!	10 (2.2)	276 (4.7)!
New Jersey	61 (3.6)	279 (2.1)	25 (3.6)	258 (4.1)	10 (2.1)	247 (6.2)!	12 (2.2)	260 (6.0)
New Mexico	73 (2.1)	262 (1.0)	15 (2.2)	257 (2.0)	10 (2.1)	262 (2.2)!	11 (1.7)	246 (2.7)
New York	81 (2.6)	267 (2.2)	11 (2.2)	264 (4.7)	7 (2.1)	269 (4.3)!	9 (2.0)	256 (8.7)!
North Carolina	69 (3.3)	259 (1.5)	14 (2.3)	257 (3.2)	14 (2.1)	265 (2.4)	13 (1.8)	249 (3.0)
North Dakota	81 (2.6)	283 (1.3)	6 (1.4)	282 (4.3)!	4 (1.9)	281 (4.5)!	8 (2.0)	277 (2.8)!
Ohio	69 (3.7)	268 (1.9)	15 (2.3)	264 (4.2)	9 (2.6)	258 (9.7)!	15 (3.2)	267 (3.0)!
Oklahoma	67 (4.0)	270 (1.4)	17 (2.7)	266 (2.4)	4 (1.4)	272 (5.4)!	16 (3.0)	257 (3.2)
Pennsylvania	84 (2.2)	274 (1.6)	11 (1.7)	260 (6.3)	2 (1.0)	273(12.0)!	7 (1.5)	248 (4.1)!
Rhode Island	86 (0.4)	266 (0.8)	6 (0.4)	248 (3.9)	2 (0.3)	*** (***)	6 (0.3)	271 (2.8)
South Carolina	69 (3.3)	264 (1.5)	18 (2.7)	255 (3.0)	8 (1.9)	261 (3.9)!	16 (2.5)	249 (3.3)
Tennessee	60 (3.8)	261 (1.8)	14 (2.5)	252 (2.9)	10 (2.1)	260 (4.6)!	24 (3.3)	255 (2.6)
Texas	73 (2.6)	267 (1.4)	14 (2.2)	254 (3.9)	10 (1.8)	269 (4.1)	12 (2.0)	261 (3.4)
Utah	77 (2.3)	275 (0.9)	11 (1.3)	269 (1.9)	6 (1.0)	268 (4.1)	11 (1.7)	265 (3.5)
Virginia	80 (2.8)	269 (1.3)	9 (1.8)	263 (3.3)	4 (1.4)	278 (5.7)!	9 (1.6)	254 (3.9)
West Virginia	76 (3.0)	259 (1.2)	14 (2.6)	258 (2.0)	5 (1.7)	260 (2.3)!	11 (1.8)	254 (3.4)
Wisconsin	69 (4.1)	282 (1.6)	19 (3.4)	275 (3.2)	13 (3.1)	284 (5.5)!	12 (2.4)	266 (3.3)!
Wyoming	82 (2.2)	275 (1.0)	14 (2.0)	280 (2.8)	2 (0.7)	*** (***)	8 (1.7)	266 (3.9)!
TERRITORIES								
Guam	47 (1.4)	235 (1.6)	37 (1.3)	242 (1.8)	6 (0.4)	222 (5.2)	10 (1.0)	226 (2.4)
Virgin Islands	49 (1.2)	222 (1.3)	23 (1.0)	218 (1.7)	10 (0.8)	208 (3.5)	20 (1.0)	226 (2.0)

TABLE 11.21 | Teachers' Reports on Their Exposure to Calculus

PUBLIC SCHOOLS	Grade 4 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	12 (1.3)	214 (2.5)	7 (1.1)	210 (4.1)	1 (0.4)	*** (***)	79 (1.5)	219 (1.0)
Northeast	15 (3.5)	218 (6.5)!	6 (2.5)	227 (12.7)!	1 (0.6)	*** (***)	75 (4.3)	223 (2.4)
Southeast	12 (2.6)	205 (3.4)!	8 (1.6)	206 (9.1)!	1 (1.0)	*** (***)	77 (2.7)	209 (2.0)
Central	13 (3.0)	222 (4.7)!	6 (2.1)	210 (8.3)!	1 (1.2)	*** (***)	80 (3.4)	226 (2.4)
West	10 (1.5)	207 (5.3)	7 (2.2)	204 (3.4)!	1 (0.3)	*** (***)	81 (1.8)	219 (1.8)
STATES								
Alabama	11 (1.7)	204 (3.6)	10 (2.2)	209 (4.2)!	0 (0.3)	*** (***)	79 (2.4)	208 (1.6)
Arizona	11 (2.1)	219 (2.8)	7 (1.5)	211 (4.3)!	0 (0.2)	*** (***)	81 (2.2)	214 (1.2)
Arkansas	5 (1.3)	211 (6.6)!	4 (1.2)	202 (5.5)!	1 (0.6)	*** (***)	87 (1.8)	210 (1.0)
California	12 (2.1)	206 (3.3)	9 (1.6)	208 (4.6)	2 (0.8)	*** (***)	76 (2.8)	207 (1.6)
Colorado	9 (1.5)	224 (3.9)	6 (1.4)	215 (3.9)!	2 (0.6)	*** (***)	79 (2.2)	220 (1.1)
Connecticut	18 (2.3)	224 (3.1)	8 (1.5)	229 (4.3)	2 (0.7)	*** (***)	71 (2.9)	228 (1.4)
Delaware	12 (0.6)	222 (2.9)	9 (0.5)	211 (2.4)	1 (0.2)	*** (***)	76 (0.8)	217 (0.8)
Dist. Columbia	10 (0.7)	189 (3.2)	11 (0.7)	185 (2.2)	8 (0.3)	195 (2.2)	65 (0.9)	191 (0.9)
Florida	10 (1.3)	216 (3.1)	10 (2.0)	215 (4.6)!	2 (0.8)	*** (***)	76 (2.4)	213 (1.8)
Georgia	12 (1.6)	216 (2.5)	10 (1.7)	209 (4.3)	1 (0.5)	*** (***)	75 (2.3)	214 (1.4)
Hawaii	12 (1.7)	211 (3.1)	8 (1.5)	211 (3.5)	1 (0.4)	*** (***)	75 (2.4)	214 (1.5)
Idaho	8 (1.6)	219 (2.2)	9 (2.0)	221 (3.1)!	1 (0.5)	*** (***)	83 (2.3)	220 (1.0)
Indiana	10 (1.8)	218 (2.9)	6 (1.6)	223 (4.4)!	0 (0.0)	*** (***)	82 (2.4)	219 (1.2)
Iowa	8 (2.2)	231 (3.8)!	5 (1.4)	228 (5.1)!	0 (0.4)	*** (***)	84 (2.7)	229 (1.1)
Kentucky	10 (1.8)	215 (3.1)	5 (1.4)	210 (5.9)!	1 (0.9)	*** (***)	82 (2.3)	213 (1.2)
Louisiana	10 (2.5)	198 (7.4)!	10 (2.0)	207 (5.0)!	2 (1.2)	200 (9.6)!	77 (2.8)	204 (1.6)
Maine	10 (1.9)	227 (2.5)	7 (1.8)	232 (3.6)!	1 (0.7)	*** (***)	79 (2.7)	231 (1.0)
Maryland	15 (2.5)	218 (3.5)	9 (1.8)	208 (4.9)!	1 (0.5)	*** (***)	74 (2.5)	218 (1.3)
Massachusetts	14 (2.4)	225 (3.2)	7 (1.7)	222 (5.0)!	2 (1.2)	*** (***)	75 (3.2)	226 (1.4)
Michigan	12 (2.3)	218 (4.4)	14 (2.7)	214 (5.5)!	3 (1.4)	215 (11.5)!	69 (3.4)	221 (2.1)
Minnesota	8 (1.3)	228 (2.7)	5 (1.2)	230 (3.6)!	1 (0.3)	*** (***)	84 (2.2)	227 (1.2)
Mississippi	12 (2.6)	189 (3.7)!	8 (2.1)	197 (4.9)!	3 (1.2)	*** (***)	78 (3.1)	202 (1.4)
Missouri	7 (1.5)	225 (6.4)!	5 (1.4)	216 (5.2)!	2 (1.0)	*** (***)	85 (2.2)	221 (1.4)
Nebraska	5 (1.4)	212 (5.8)!	5 (1.1)	227 (4.1)!	2 (0.9)	*** (***)	86 (2.2)	224 (1.4)
New Hampshire	17 (2.4)	229 (2.6)	7 (1.7)	225 (3.4)!	1 (0.7)	*** (***)	73 (2.8)	229 (1.3)
New Jersey	10 (1.8)	222 (4.7)	16 (2.5)	223 (3.7)	1 (0.5)	*** (***)	74 (2.8)	227 (1.7)
New Mexico	12 (2.2)	211 (3.4)	8 (1.6)	214 (5.7)!	0 (0.4)	*** (***)	76 (2.6)	212 (1.6)
New York	24 (2.8)	219 (2.6)	11 (1.9)	214 (3.3)	1 (0.5)	*** (***)	64 (3.1)	218 (1.7)
North Carolina	11 (1.7)	212 (3.6)	5 (1.3)	208 (3.7)!	1 (0.3)	*** (***)	81 (2.3)	212 (1.2)
North Dakota	7 (2.6)	230 (2.5)!	3 (1.0)	221 (5.1)!	0 (0.0)	*** (***)	89 (3.0)	228 (0.9)
Ohio	13 (2.2)	216 (3.5)	9 (1.8)	219 (5.4)!	2 (0.8)	*** (***)	77 (2.8)	217 (1.4)
Oklahoma	4 (1.7)	217 (5.9)!	5 (1.2)	224 (6.5)!	2 (1.0)	*** (***)	88 (2.3)	219 (1.0)
Pennsylvania	12 (1.6)	224 (5.0)	8 (1.7)	220 (3.7)!	0 (0.5)	*** (***)	78 (2.4)	224 (1.5)
Rhode Island	11 (2.0)	212 (4.3)	7 (1.6)	215 (5.8)!	0 (0.4)	*** (***)	80 (2.4)	215 (1.6)
South Carolina	15 (2.4)	214 (2.6)	10 (1.9)	208 (5.2)	1 (0.4)	*** (***)	75 (2.9)	212 (1.3)
Tennessee	10 (1.7)	211 (2.9)	8 (1.9)	206 (3.5)!	1 (0.6)	*** (***)	78 (2.5)	210 (1.5)
Texas	11 (2.0)	218 (2.6)	10 (1.7)	211 (3.6)	1 (0.5)	*** (***)	74 (2.7)	218 (1.7)
Utah	6 (1.3)	221 (3.4)!	7 (1.4)	224 (3.4)!	2 (0.7)	*** (***)	82 (2.1)	223 (1.2)
Virginia	12 (2.0)	226 (3.6)	9 (1.6)	208 (3.7)	1 (0.4)	*** (***)	78 (2.6)	221 (1.6)
West Virginia	5 (1.5)	216 (4.6)!	11 (2.2)	215 (4.0)!	1 (1.0)	*** (***)	82 (2.2)	213 (1.2)
Wisconsin	5 (1.3)	217 (3.8)!	8 (1.9)	231 (3.9)!	1 (0.5)	*** (***)	84 (2.5)	228 (1.1)
Wyoming	11 (2.2)	227 (2.9)!	8 (1.7)	226 (3.6)!	1 (0.7)	*** (***)	78 (2.9)	224 (1.0)
TERRITORY								
Guam	0 (0.3)	*** (***)	18 (1.2)	193 (1.9)	2 (0.5)	*** (***)	80 (1.3)	191 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.21 | Teachers' Reports on Their Exposure to Calculus (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Yes, One or More College Courses		Yes, Part of a College Course		Yes, In-Service Training		Yes, Little or No Exposure	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	70 (2.6)	269 (1.5)	7 (1.3)	260 (4.1)	2 (0.6)	266 (4.9)!	22 (2.2)	262 (2.2)
Northeast	69 (6.4)	269 (4.2)	7 (4.0)	253(10.9)!	2 (0.8)	*** (***)	26 (6.3)	262 (6.4)!
Southeast	57 (5.3)	264 (2.1)	5 (2.1)	248 (9.3)!	4 (2.2)	265 (5.4)!	33 (4.9)	257 (2.3)
Central	78 (6.7)	276 (2.9)	9 (3.2)	264 (8.8)!	0 (0.2)	*** (***)	11 (4.5)	271 (3.0)!
West	75 (2.9)	267 (2.9)	6 (1.6)	269 (6.0)!	1 (0.6)	*** (***)	18 (2.7)	266 (4.8)
STATES								
Alabama	77 (3.7)	254 (1.9)	5 (1.6)	247 (3.5)!	2 (0.9)	*** (***)	21 (3.7)	242 (2.8)
Arizona	50 (4.0)	268 (1.7)	10 (2.5)	263 (3.3)!	2 (1.0)	*** (***)	35 (3.4)	261 (2.1)
Arkansas	80 (2.9)	257 (1.3)	5 (1.5)	252 (5.2)!	2 (0.9)	262 (9.5)!	16 (2.7)	250 (4.0)
California	56 (3.7)	264 (2.1)	11 (2.0)	264 (6.2)	4 (1.6)	269(17.9)!	30 (3.5)	255 (2.5)
Colorado	75 (2.7)	273 (1.2)	8 (1.7)	272 (3.0)!	1 (0.4)	*** (***)	17 (2.3)	269 (3.2)
Connecticut	73 (3.2)	278 (1.1)	7 (1.7)	280 (3.3)!	3 (1.1)	282 (7.7)!	19 (3.0)	257 (3.8)
Delaware	82 (0.6)	265 (1.1)	6 (0.7)	257 (2.1)	3 (0.3)	271 (5.6)	16 (0.6)	251 (2.3)
Dist. Columbia	82 (0.9)	234 (1.0)	13 (0.8)	231 (3.3)	8 (0.5)	225 (3.4)	6 (0.4)	240 (3.9)
Florida	67 (3.2)	262 (1.5)	8 (1.8)	258 (4.8)!	4 (1.2)	257 (7.9)!	24 (2.5)	253 (3.2)
Georgia	52 (3.6)	261 (1.7)	8 (2.0)	251 (5.0)!	1 (0.7)	*** (***)	38 (3.1)	257 (2.2)
Hawaii	74 (0.9)	260 (1.0)	7 (0.5)	266 (3.4)	1 (0.1)	*** (***)	18 (0.6)	241 (1.5)
Idaho	74 (3.2)	277 (0.8)	7 (1.5)	279 (3.3)!	4 (0.9)	277 (5.4)!	20 (2.8)	264 (2.2)
Indiana	87 (2.1)	271 (1.2)	5 (1.7)	267 (5.6)!	1 (0.5)	*** (***)	9 (1.9)	258 (3.3)!
Iowa	79 (3.1)	284 (1.1)	4 (1.4)	274 (7.1)!	0 (0.3)	*** (***)	18 (3.0)	279 (2.5)
Kentucky	61 (3.8)	267 (1.5)	6 (1.6)	263 (6.9)!	1 (0.8)	*** (***)	33 (3.8)	254 (1.9)
Louisiana	52 (3.9)	252 (2.8)	7 (1.9)	245 (4.3)!	2 (0.9)	*** (***)	37 (3.7)	248 (2.1)
Maine	62 (3.8)	281 (1.3)	6 (2.4)	282 (3.9)!	3 (1.5)	272 (3.8)!	28 (3.5)	271 (1.8)
Maryland	77 (3.3)	268 (1.7)	11 (2.6)	256 (5.1)!	4 (1.4)	257 (8.0)!	12 (2.5)	254 (5.5)!
Massachusetts	73 (3.3)	273 (1.5)	10 (2.3)	266 (5.9)!	1 (0.6)	*** (***)	17 (2.5)	269 (4.5)
Michigan	65 (3.8)	271 (2.2)	8 (1.5)	251 (3.5)	2 (1.6)	*** (***)	26 (3.5)	264 (3.0)
Minnesota	90 (2.3)	282 (1.0)	6 (2.0)	288 (2.9)!	0 (0.2)	*** (***)	2 (0.9)	*** (***)
Mississippi	61 (3.0)	247 (1.6)	5 (1.5)	255 (6.4)!	3 (1.6)	246 (7.9)!	33 (2.9)	242 (2.4)
Missouri	84 (2.6)	272 (1.2)	3 (0.9)	271 (6.7)!	2 (1.0)	*** (***)	12 (2.4)	262 (3.3)!
Nebraska	86 (3.2)	278 (1.3)	6 (1.5)	279 (3.9)!	2 (1.2)	*** (***)	10 (2.7)	273 (4.8)!
New Hampshire	83 (3.1)	277 (1.0)	3 (1.1)	276 (8.5)!	1 (1.0)	*** (***)	13 (3.2)	278 (2.9)!
New Jersey	61 (3.3)	279 (2.0)	9 (2.1)	253 (9.1)!	3 (1.1)	249 (8.7)!	28 (3.9)	260 (4.2)
New Mexico	71 (2.8)	262 (1.2)	9 (1.5)	259 (2.9)	6 (1.6)	265 (4.4)!	17 (2.3)	251 (2.6)
New York	86 (2.3)	268 (2.2)	10 (2.3)	255 (6.8)!	2 (1.2)	*** (***)	6 (1.4)	245(11.7)!
North Carolina	59 (3.7)	261 (1.4)	7 (1.8)	259 (4.4)!	1 (0.5)	*** (***)	35 (3.6)	253 (1.9)
North Dakota	81 (2.7)	283 (1.2)	6 (1.9)	280 (4.5)!	0 (0.0)	*** (***)	12 (2.6)	281 (2.7)!
Ohio	69 (3.8)	269 (1.9)	4 (1.4)	263(12.9)!	2 (0.9)	*** (***)	26 (3.7)	265 (2.6)
Oklahoma	67 (4.3)	271 (1.3)	6 (1.8)	264 (5.1)!	1 (0.6)	*** (***)	25 (3.9)	259 (2.4)
Pennsylvania	89 (1.8)	273 (1.7)	6 (1.4)	266 (6.6)!	1 (0.6)	*** (***)	9 (1.7)	247 (3.5)
Rhode Island	86 (0.4)	266 (0.9)	8 (0.3)	261 (2.9)	0 (0.0)	*** (***)	5 (0.3)	255 (2.6)
South Carolina	64 (3.3)	266 (1.7)	10 (2.4)	254 (4.4)!	2 (1.0)	*** (***)	26 (2.9)	248 (2.0)
Tennessee	54 (3.7)	262 (1.9)	11 (1.9)	251 (3.7)	4 (1.5)	259 (5.7)!	35 (3.4)	254 (2.2)
Texas	72 (3.1)	267 (1.4)	7 (1.8)	256 (5.2)!	2 (1.0)	262(11.5)!	18 (2.5)	258 (2.8)
Utah	77 (1.8)	275 (1.0)	8 (1.3)	271 (2.4)	5 (0.9)	268 (4.8)	14 (1.5)	268 (3.2)
Virginia	82 (2.9)	269 (1.5)	6 (1.8)	263 (4.7)!	1 (0.7)	*** (***)	11 (1.9)	256 (2.9)
West Virginia	70 (3.1)	260 (1.2)	7 (2.3)	260 (3.9)!	1 (0.6)	*** (***)	23 (2.9)	253 (1.9)
Wisconsin	60 (5.1)	282 (1.5)	12 (3.0)	279 (8.1)!	4 (1.8)	288 (3.6)!	30 (3.8)	272 (2.5)
Wyoming	88 (1.3)	275 (1.0)	7 (0.7)	276 (3.3)	2 (0.6)	*** (***)	8 (1.1)	262 (3.4)
TERRITORIES								
Guam	55 (1.1)	232 (1.5)	27 (1.1)	251 (2.0)	0 (0.0)	*** (***)	18 (1.1)	224 (2.2)
Virgin Islands	56 (1.1)	224 (1.4)	16 (0.8)	219 (1.8)	5 (0.4)	206 (2.9)	26 (1.1)	224 (1.9)

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TABLE 11.22 Teachers' Reports on Mathematics College Courses Taken Summarized Across Six Mathematics Areas, † Grades 4 and 8

	Courses in Five to Six Areas		Courses in Three to Four Areas		Courses in Zero to Two Areas	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4						
Nation	17 (1.7)	213 (2.4)	22 (1.6)	220 (1.7)	61 (2.0)	220 (1.0)
White	14 (1.9)	224 (2.4)	22 (1.7)	226 (1.8)	64 (2.1)	227 (1.1)
Black	27 (4.0)	191 (2.7)	20 (3.0)	192 (3.4)	53 (4.9)	194 (1.7)
Hispanic	18 (2.2)	199 (3.3)	24 (2.1)	203 (2.3)	57 (3.2)	201 (2.0)
Male	17 (1.9)	214 (3.0)	22 (1.5)	220 (2.1)	61 (2.2)	222 (1.3)
Female	16 (1.7)	212 (2.5)	22 (1.9)	218 (2.0)	61 (2.1)	219 (1.2)
Grade 8						
Nation	45 (2.2)	269 (1.4)	26 (2.1)	271 (2.4)	28 (2.1)	266 (1.6)
White	44 (2.7)	279 (1.4)	27 (2.5)	280 (2.2)	29 (2.6)	274 (1.5)
Black	49 (4.3)	238 (1.6)	28 (3.0)	237 (3.8)	23 (3.6)	237 (2.7)
Hispanic	44 (3.0)	246 (2.2)	24 (2.9)	251 (3.7)	32 (2.3)	245 (3.1)
Male	44 (2.1)	270 (1.7)	28 (2.1)	271 (2.6)	29 (2.2)	264 (1.8)
Female	46 (2.5)	269 (1.7)	25 (2.2)	270 (2.6)	28 (2.1)	267 (1.8)

† Summarized across at least one college course in each of Number Systems and Numeration, Measurement in Mathematics, Geometry, Probability and Statistics, Abstract/Linear Algebra, and Calculus.

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 11.23 | Teachers' Reports on Mathematics College Courses Taken Summarized Across Six Mathematics Areas

PUBLIC SCHOOLS	Grade 4 - 1992					
	Courses in Five to Six Areas		Courses in Three to Four Areas		Courses in Zero to Two Areas	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	17 (1.9)	211 (2.6)	22 (1.8)	218 (1.8)	61 (2.4)	219 (1.2)
Northeast	18 (4.6)	221 (6.7)!	19 (5.5)	219 (4.7)!	64 (6.1)	224 (2.9)
Southeast	21 (4.0)	200 (3.3)!	26 (2.4)	210 (2.6)	53 (4.2)	210 (2.5)
Central	15 (4.1)	217 (5.8)!	19 (3.4)	223 (4.2)	66 (5.3)	226 (2.0)
West	14 (2.2)	212 (3.3)	24 (3.6)	222 (3.6)	62 (3.5)	217 (2.4)
STATES						
Alabama	20 (2.4)	205 (2.8)	29 (3.4)	208 (3.0)	50 (3.2)	208 (1.8)
Arizona	18 (2.0)	219 (2.3)	26 (2.2)	213 (1.9)	56 (2.5)	213 (1.5)
Arkansas	10 (1.9)	206 (2.4)	33 (3.2)	209 (2.1)	57 (3.0)	210 (1.0)
California	21 (2.7)	207 (2.7)	20 (2.3)	206 (3.8)	59 (3.3)	207 (1.8)
Colorado	13 (2.2)	224 (3.4)	26 (2.3)	220 (2.5)	61 (2.7)	219 (1.1)
Connecticut	20 (3.0)	229 (3.2)	25 (2.7)	225 (2.7)	55 (2.8)	227 (1.5)
Delaware	15 (0.7)	222 (2.3)	30 (0.8)	216 (1.4)	55 (1.1)	216 (1.0)
Dist. Columbia	20 (0.6)	188 (1.5)	29 (0.8)	189 (1.3)	51 (0.9)	193 (0.8)
Florida	16 (1.9)	215 (1.9)	29 (2.6)	213 (3.1)	55 (2.9)	212 (1.9)
Georgia	19 (2.2)	213 (2.6)	32 (3.7)	213 (2.6)	49 (3.6)	215 (1.8)
Hawaii	19 (2.6)	209 (3.4)	20 (1.8)	211 (2.7)	61 (2.9)	215 (1.5)
Idaho	11 (1.7)	219 (2.9)	24 (2.9)	219 (1.5)	65 (3.2)	221 (1.1)
Indiana	16 (2.1)	217 (2.2)	30 (2.4)	219 (1.9)	53 (2.8)	221 (1.4)
Iowa	9 (2.1)	232 (4.0)!	25 (2.8)	230 (2.2)	67 (3.3)	228 (1.3)
Kentucky	15 (2.8)	216 (3.1)	26 (3.0)	214 (2.0)	58 (4.0)	213 (1.4)
Louisiana	22 (2.7)	201 (3.3)	23 (2.7)	204 (2.4)	55 (2.9)	204 (2.2)
Maine	13 (2.8)	229 (2.2)!	24 (2.8)	229 (2.1)	63 (3.7)	232 (1.3)
Maryland	14 (2.0)	219 (3.2)	24 (2.6)	214 (2.5)	62 (2.8)	217 (1.7)
Massachusetts	17 (2.7)	228 (2.7)	22 (2.2)	224 (2.9)	61 (3.3)	225 (1.4)
Michigan	17 (2.6)	213 (3.9)	21 (2.9)	217 (2.8)	62 (3.6)	221 (2.3)
Minnesota	7 (1.4)	223 (3.2)!	31 (3.2)	227 (2.2)	63 (3.2)	228 (1.4)
Mississippi	22 (2.8)	197 (2.6)	29 (2.9)	200 (2.4)	48 (3.4)	201 (1.8)
Missouri	16 (2.0)	222 (3.1)	32 (3.5)	219 (2.3)	51 (3.6)	222 (1.6)
Nebraska	6 (1.4)	221 (4.8)!	21 (2.5)	222 (2.2)	73 (2.7)	225 (1.5)
New Hampshire	11 (2.1)	226 (3.1)	25 (2.6)	228 (2.2)	64 (3.3)	230 (1.5)
New Jersey	14 (2.3)	229 (3.8)	23 (2.4)	223 (2.2)	63 (3.3)	227 (2.0)
New Mexico	20 (2.9)	212 (2.5)	27 (2.7)	213 (2.3)	53 (3.3)	211 (1.8)
New York	18 (2.2)	213 (2.9)	23 (2.6)	217 (3.4)	60 (3.6)	218 (1.6)
North Carolina	18 (2.0)	215 (2.9)	24 (2.4)	212 (1.7)	58 (2.8)	211 (1.2)
North Dakota	8 (2.1)	229 (2.7)!	24 (3.2)	230 (1.5)	68 (3.6)	227 (1.0)
Ohio	13 (1.9)	215 (3.5)	29 (2.7)	217 (2.0)	58 (3.2)	218 (1.5)
Oklahoma	13 (2.2)	220 (3.4)	28 (3.0)	220 (1.4)	59 (3.2)	219 (1.4)
Pennsylvania	15 (2.7)	225 (3.8)	27 (2.6)	223 (3.3)	58 (3.2)	223 (1.6)
Rhode Island	13 (1.8)	213 (3.7)	15 (2.0)	211 (3.3)	73 (2.2)	215 (1.8)
South Carolina	17 (2.7)	212 (2.2)	32 (2.9)	210 (1.9)	51 (3.6)	212 (1.7)
Tennessee	15 (2.4)	211 (2.3)	36 (3.1)	208 (2.3)	50 (3.0)	210 (1.8)
Texas	16 (2.1)	216 (2.9)	27 (2.5)	217 (2.2)	56 (2.8)	217 (2.0)
Utah	14 (2.3)	224 (2.3)	23 (2.7)	221 (1.7)	63 (2.9)	223 (1.3)
Virginia	13 (2.2)	216 (3.3)	27 (2.3)	217 (2.4)	59 (3.0)	222 (1.7)
West Virginia	14 (2.3)	216 (3.2)	27 (3.1)	214 (2.0)	59 (3.5)	213 (1.2)
Wisconsin	9 (1.7)	231 (4.0)	21 (2.6)	227 (2.0)	70 (2.9)	228 (1.3)
Wyoming	14 (2.5)	227 (2.5)	29 (3.5)	225 (1.6)	57 (3.2)	224 (1.3)
TERRITORY						
Guam	4 (0.8)	188 (6.4)!	33 (1.3)	195 (1.8)	64 (1.1)	190 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Summarized across at least one college course in each of Number Systems and Numeration, Measurement in Mathematics, Geometry, Probability and Statistics, Abstract Linear Algebra, and Calculus (see Tables 11.16-11.21). ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.23 | Teachers' Reports on Mathematics College Courses Taken Summarized Across Six Mathematics Areas (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Courses in Five to Six Areas		Courses in Three to Four Areas		Courses in Zero to Two Areas	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	48 (2.5)	268 (1.4)	27 (2.3)	269 (2.5)	26 (2.4)	263 (2.0)
Northeast	49 (5.0)	268 (3.4)	20 (6.5)	271 (8.7)!	31 (6.5)	264 (5.2)!
Southeast	48 (4.9)	264 (2.7)	20 (3.6)	260 (4.0)	32 (4.1)	256 (2.4)
Central	48 (6.5)	275 (2.4)	35 (3.9)	274 (4.3)	17 (5.1)	273 (4.4)!
West	47 (3.5)	267 (3.1)	29 (4.2)	268 (3.8)	24 (3.6)	265 (3.6)
STATES						
Alabama	50 (4.4)	252 (2.4)	32 (4.1)	253 (2.7)	17 (3.5)	244 (3.5)!
Arizona	31 (2.8)	268 (2.4)	35 (3.6)	266 (2.1)	34 (3.2)	259 (2.3)
Arkansas	45 (3.9)	254 (1.7)	39 (4.0)	259 (2.2)	16 (2.9)	253 (2.9)
California	38 (3.2)	263 (2.4)	30 (3.0)	262 (2.9)	32 (3.2)	256 (3.1)
Colorado	42 (3.0)	272 (1.4)	34 (3.3)	272 (2.1)	24 (2.6)	270 (2.5)
Connecticut	52 (3.7)	278 (1.5)	33 (3.1)	272 (3.1)	16 (2.5)	261 (3.7)
Delaware	54 (0.9)	267 (1.3)	28 (0.7)	260 (1.4)	18 (0.6)	250 (2.5)
Dist. Columbia	57 (0.9)	232 (1.0)	22 (0.8)	235 (1.5)	21 (0.8)	240 (2.8)
Florida	43 (3.4)	263 (1.7)	33 (3.4)	260 (2.3)	24 (2.7)	252 (3.4)
Georgia	43 (3.1)	262 (1.6)	28 (3.0)	260 (2.5)	29 (3.1)	253 (2.9)
Hawaii	43 (0.9)	259 (1.1)	26 (0.7)	260 (1.8)	31 (0.9)	251 (1.4)
Idaho	41 (3.0)	275 (1.1)	36 (3.3)	277 (1.7)	22 (2.4)	268 (2.3)
Indiana	65 (4.0)	271 (1.3)	25 (3.7)	270 (2.8)	10 (1.9)	260 (3.7)
Iowa	52 (4.1)	284 (1.4)	30 (3.6)	284 (1.6)	18 (2.9)	278 (2.2)
Kentucky	41 (3.7)	267 (1.8)	32 (3.6)	262 (1.9)	27 (3.3)	255 (2.1)
Louisiana	38 (3.8)	249 (3.0)	32 (4.0)	251 (3.3)	30 (3.6)	247 (2.5)
Maine	46 (3.9)	283 (1.4)	26 (3.7)	274 (2.4)	28 (3.6)	274 (1.7)
Maryland	46 (3.7)	268 (2.5)	30 (3.5)	269 (3.0)	24 (3.3)	253 (3.0)
Massachusetts	56 (3.9)	273 (1.6)	23 (2.8)	275 (2.3)	21 (3.3)	267 (2.6)
Michigan	41 (3.9)	271 (2.8)	26 (3.0)	267 (3.9)	33 (3.8)	262 (2.7)
Minnesota	64 (3.5)	281 (1.2)	25 (3.1)	285 (2.3)	11 (2.4)	280 (3.4)!
Mississippi	43 (4.1)	243 (1.9)	30 (3.6)	247 (2.0)	27 (3.4)	248 (3.1)
Missouri	49 (3.3)	273 (1.4)	37 (3.5)	270 (1.7)	15 (2.6)	264 (3.2)
Nebraska	53 (4.1)	276 (1.5)	28 (3.3)	279 (2.0)	19 (3.5)	278 (2.9)
New Hampshire	56 (4.3)	278 (1.0)	27 (3.8)	275 (1.4)	17 (2.9)	278 (3.3)
New Jersey	41 (4.1)	280 (2.9)	25 (3.8)	276 (2.7)	35 (3.8)	258 (3.4)
New Mexico	47 (3.3)	261 (1.3)	35 (2.9)	262 (1.9)	18 (2.3)	249 (2.1)
New York	58 (3.6)	266 (2.7)	26 (2.4)	271 (2.8)	16 (2.7)	256 (4.8)
North Carolina	41 (3.0)	259 (1.8)	28 (2.8)	259 (1.8)	31 (3.1)	255 (2.2)
North Dakota	57 (3.8)	283 (1.4)	27 (3.5)	283 (2.1)	16 (1.9)	281 (1.9)
Ohio	37 (4.9)	271 (3.2)	35 (4.1)	264 (2.8)	29 (3.6)	268 (2.7)
Oklahoma	50 (4.4)	270 (1.8)	26 (3.4)	269 (2.3)	24 (3.4)	260 (2.3)
Pennsylvania	58 (3.2)	272 (2.0)	29 (2.8)	277 (1.6)	14 (2.0)	250 (4.2)
Rhode Island	57 (0.8)	264 (1.0)	30 (0.8)	268 (1.2)	13 (0.5)	260 (2.7)
South Carolina	46 (3.6)	265 (2.0)	29 (3.2)	260 (2.2)	25 (3.1)	252 (2.1)
Tennessee	35 (3.6)	261 (1.9)	28 (3.4)	260 (2.7)	37 (3.4)	254 (2.4)
Texas	43 (3.4)	266 (1.9)	36 (2.9)	267 (1.8)	21 (2.5)	255 (3.0)
Utah	54 (2.6)	276 (1.2)	26 (2.6)	271 (1.6)	20 (2.4)	271 (2.0)
Virginia	47 (3.2)	271 (2.2)	36 (3.0)	266 (1.9)	16 (2.5)	259 (2.8)
West Virginia	50 (3.9)	259 (1.7)	34 (3.7)	259 (1.5)	16 (2.8)	254 (2.1)
Wisconsin	45 (4.5)	281 (1.5)	27 (4.9)	279 (3.0)!	28 (3.5)	273 (3.7)
Wyoming	56 (3.4)	274 (1.4)	33 (3.2)	277 (1.0)	11 (1.9)	269 (2.7)
TERRITORIES						
Guam	31 (1.2)	240 (2.2)	44 (1.1)	230 (1.6)	25 (0.7)	237 (2.1)
Virgin Islands	40 (1.0)	229 (1.6)	16 (0.7)	213 (2.2)	44 (1.1)	218 (1.5)

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TABLE 11.24 Teachers' Reports on the Amount of Time Spent on In-Service Education in Mathematics or the Teaching of Mathematics During the Last Year, Grades 4 and 8

	Assessment Years	16 Hours or More		One to 15 Hours		None	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4							
Nation	1992	21 (2.3)>	217 (1.7)	62 (2.4)	220 (1.1)>	18 (1.8)<	217 (1.7)
	1990	11 (1.7)	211 (3.8)	57 (3.1)	212 (1.6)	32 (3.0)	217 (2.2)
White	1992	19 (2.7)>	227 (1.3)	63 (2.8)	228 (1.2)>	18 (2.0)<	223 (2.0)
	1990	8 (1.9)	220 (3.7)	58 (3.9)	219 (1.7)	34 (3.7)	222 (2.6)
Black	1992	26 (3.3)	190 (2.6)	60 (3.8)	193 (1.8)	15 (2.3)<	197 (3.3)
	1990	16 (4.3)	191 (4.4)	54 (4.4)	189 (2.4)	30 (3.9)	194 (3.2)
Hispanic	1992	21 (2.4)	204 (3.4)	58 (3.4)	200 (1.8)	21 (3.1)	201 (3.6)
	1990	15 (2.7)	200 (4.9)	62 (3.4)	196 (2.9)	22 (2.8)	206 (4.1)
Male	1992	22 (2.4)>	217 (2.3)	60 (2.5)	222 (1.3)>	18 (1.9)<	217 (1.7)
	1990	11 (2.0)	213 (4.5)	58 (3.3)	212 (2.1)	32 (3.1)	218 (2.5)
Female	1992	20 (2.4)>	217 (1.8)	63 (2.5)	218 (1.3)>	17 (1.7)<	218 (2.6)
	1990	10 (1.8)	209 (4.5)	57 (3.3)	212 (1.7)	32 (3.3)	215 (2.7)
Grade 8							
Nation	1992	45 (2.5)	269 (1.5)	46 (2.2)	268 (1.3)>	9 (1.4)	268 (3.1)
	1990	37 (3.6)	268 (2.1)	52 (3.8)	261 (1.6)	11 (2.1)	265 (4.0)
White	1992	44 (3.0)	279 (1.4)	46 (2.6)	277 (1.3)>	10 (1.7)	276 (2.7)
	1990	37 (3.6)	274 (2.1)	51 (3.9)	268 (2.1)	12 (2.4)	269 (4.5)
Black	1992	47 (4.1)>	238 (2.3)	45 (4.4)<	237 (2.1)	7 (2.0)	234 (4.6)
	1990	29 (5.2)	247 (4.3)	64 (5.9)	237 (3.6)	7 (2.5)	245(12.4)
Hispanic	1992	46 (2.8)	246 (1.8)	50 (2.8)	249 (2.4)	5 (1.5)	237 (1.5)
	1990	39 (6.0)	251 (4.7)	50 (6.4)	246 (3.1)	12 (2.9)	245 (8.9)
Male	1992	44 (2.7)	269 (1.9)	47 (2.4)	268 (1.5)	9 (1.5)	266 (4.1)
	1990	36 (3.7)	270 (3.0)	53 (3.9)	262 (2.3)	11 (2.0)	264 (4.5)
Female	1992	45 (2.4)	268 (1.7)	46 (2.3)	268 (1.3)>	9 (1.3)	270 (3.2)
	1990	37 (3.7)	266 (1.8)	51 (4.1)	260 (1.6)	12 (2.4)	266 (5.1)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total due to rounding error.

TABLE 11.25 | Teachers' Reports on the Amount of Time Spent on In-Service Education in Mathematics or the Teaching of Mathematics During the Last Year

PUBLIC SCHOOLS	Grade 4 - 1992					
	16 Hours or More		One to 15 Hours		None	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (2.5)	216 (1.9)	62 (2.6)	219 (1.2)	17 (2.0)	216 (2.0)
Northeast	14 (4.5)	220 (6.1)!	68 (5.9)	225 (3.0)	18 (3.9)	215 (4.1)!
Southeast	25 (4.5)	208 (4.3)	61 (6.2)	207 (2.1)	15 (3.4)	210 (2.5)!
Central	18 (4.4)	221 (3.5)!	62 (5.1)	225 (2.2)	20 (4.3)	223 (4.2)!
West	25 (5.9)	217 (3.1)!	59 (4.0)	218 (2.2)	16 (4.1)	213 (3.5)!
STATES						
Alabama	27 (3.1)	207 (2.4)	67 (3.3)	208 (1.9)	5 (1.9)	206 (5.1)!
Arizona	18 (2.1)	217 (2.5)	56 (3.2)	214 (1.7)	26 (2.8)	213 (2.0)
Arkansas	21 (2.5)	209 (2.4)	59 (3.4)	210 (1.3)	20 (2.5)	206 (2.5)
California	26 (3.2)	206 (2.5)	60 (3.5)	207 (1.9)	14 (1.9)	210 (2.7)
Colorado	18 (2.1)	222 (2.7)	59 (3.2)	220 (1.3)	22 (2.8)	218 (2.2)
Connecticut	17 (2.5)	228 (3.0)	74 (2.9)	227 (1.4)	10 (2.1)	227 (3.9)!
Delaware	17 (0.9)	220 (1.7)	70 (1.1)	216 (1.0)	13 (0.7)	218 (2.4)
Dist. Columbia	22 (0.6)	192 (1.5)	69 (0.8)	190 (0.9)	8 (0.6)	192 (3.3)
Florida	30 (2.6)	215 (2.4)	59 (2.9)	213 (2.0)	11 (1.9)	211 (2.9)
Georgia	15 (2.8)	214 (4.1)	53 (2.7)	213 (1.4)	32 (3.1)	214 (1.7)
Hawaii	26 (2.5)	214 (2.2)	66 (2.6)	212 (1.7)	8 (1.3)	217 (3.8)
Idaho	19 (2.3)	220 (1.7)	63 (3.3)	221 (1.3)	18 (2.5)	217 (1.5)
Indiana	16 (2.7)	219 (2.9)	59 (3.2)	220 (1.5)	25 (3.3)	219 (2.2)
Iowa	17 (2.9)	230 (2.6)	59 (3.4)	229 (1.4)	24 (3.1)	228 (1.9)
Kentucky	21 (3.1)	218 (2.6)	60 (3.7)	212 (1.5)	20 (3.1)	214 (2.2)
Louisiana	19 (3.1)	209 (3.4)	66 (3.3)	203 (1.7)	15 (2.7)	195 (4.1)
Maine	28 (4.1)	233 (1.8)	53 (4.2)	230 (1.4)	20 (2.3)	229 (1.9)
Maryland	25 (2.7)	220 (2.4)	61 (3.1)	217 (1.7)	13 (2.4)	213 (5.4)
Massachusetts	21 (2.8)	227 (2.6)	61 (3.9)	226 (1.6)	18 (2.8)	220 (3.0)
Michigan	30 (2.9)	217 (2.6)	58 (3.8)	222 (2.2)	11 (2.7)	213 (4.7)!
Minnesota	24 (3.1)	228 (1.9)	55 (3.5)	227 (1.4)	21 (3.1)	227 (2.8)
Mississippi	35 (3.6)	197 (2.3)	53 (3.7)	202 (1.5)	12 (2.0)	196 (3.8)
Missouri	16 (2.3)	224 (3.2)	59 (3.2)	221 (1.7)	26 (3.0)	220 (2.4)
Nebraska	14 (2.6)	226 (2.8)	61 (3.6)	224 (1.7)	24 (3.2)	225 (2.4)
New Hampshire	29 (3.3)	232 (1.9)	57 (3.4)	229 (1.6)	14 (2.3)	225 (2.6)
New Jersey	16 (2.5)	223 (4.3)	68 (3.4)	227 (1.6)	17 (3.2)	224 (3.9)!
New Mexico	11 (1.9)	215 (2.9)	60 (3.2)	212 (2.0)	29 (3.4)	210 (2.0)
New York	18 (2.8)	216 (3.8)	46 (3.1)	214 (2.1)	36 (3.8)	221 (2.2)
North Carolina	20 (2.4)	213 (2.3)	62 (2.6)	212 (1.1)	19 (2.4)	212 (3.2)
North Dakota	14 (2.4)	227 (1.4)	66 (3.3)	228 (1.1)	21 (3.2)	227 (1.5)
Ohio	18 (2.4)	214 (2.8)	64 (2.8)	219 (1.3)	17 (2.6)	216 (2.5)
Oklahoma	20 (2.9)	219 (2.0)	65 (3.3)	219 (1.3)	15 (2.2)	219 (2.3)
Pennsylvania	16 (2.4)	221 (2.5)	57 (3.7)	223 (1.9)	27 (3.3)	225 (2.4)
Rhode Island	19 (2.4)	216 (3.6)	57 (3.0)	214 (1.8)	25 (2.9)	213 (3.4)
South Carolina	23 (2.8)	215 (2.5)	67 (3.1)	211 (1.3)	10 (1.7)	204 (2.3)
Tennessee	20 (2.2)	211 (3.5)	61 (3.4)	209 (1.4)	18 (2.6)	209 (2.3)
Texas	28 (3.2)	218 (2.2)	60 (3.2)	218 (1.6)	12 (2.4)	211 (4.2)!
Utah	23 (3.2)	225 (2.4)	56 (3.4)	223 (1.1)	21 (2.3)	218 (2.1)
Virginia	18 (2.8)	221 (3.2)	62 (2.9)	219 (1.8)	20 (2.3)	220 (2.2)
West Virginia	22 (2.6)	216 (2.0)	63 (3.3)	212 (1.4)	15 (2.6)	215 (2.0)
Wisconsin	20 (3.1)	230 (2.6)	55 (3.2)	228 (1.5)	25 (2.9)	225 (1.9)
Wyoming	20 (3.0)	225 (2.0)	55 (3.5)	224 (1.1)	25 (2.9)	226 (1.6)
TERRITORY						
Guam	21 (1.3)	201 (2.2)	46 (1.2)	189 (1.2)	32 (1.5)	187 (1.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.25 | Teachers' Reports on the Amount of Time Spent on In-Service Education in Mathematics or the Teaching of Mathematics During the Last Year (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	16 Hours or More		One to 15 Hours		None	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	47 (2.6)	268 (1.7)	45 (2.6)	266 (1.5)	8 (1.5)	267 (3.8)
Northeast	38 (5.9)	271 (3.3)	51 (5.7)	263 (2.9)	11 (5.6)	270 (6.9)!
Southeast	45 (3.9)	261 (2.0)	47 (3.7)	260 (2.0)	8 (2.3)	263 (4.6)!
Central	55 (4.4)	273 (3.7)	41 (4.5)	279 (2.9)	4 (1.8)	*** (***)
West	49 (6.1)	267 (3.2)	42 (5.8)	265 (3.4)	9 (2.0)	270 (4.5)!
STATES						
Alabama	50 (4.9)»	255 (2.0)	47 (4.7)	249 (2.8)	3 (1.1)«	232 (6.8)!
Arizona	39 (3.9)»	264 (1.9)	48 (3.7)	266 (2.0)	13 (2.4)«	261 (2.9)
Arkansas	47 (4.0)	259 (2.0)	46 (4.0)	253 (1.8)	8 (2.2)	249 (4.6)!
California	61 (3.4)»	264 (2.3)	32 (3.4)<	256 (2.9)	8 (1.7)	258 (6.4)!
Colorado	37 (3.4)	271 (1.7)	56 (3.1)	273 (1.6)	8 (1.6)	262 (4.0)!
Connecticut	50 (3.6)	276 (2.5)	46 (3.6)	272 (1.9)	4 (1.0)	262 (7.6)!
Delaware	38 (0.9)<	260 (1.5)	49 (1.0)>	266 (1.3)>	13 (0.7)	254 (2.4)
Dist. Columbia	48 (0.9)«	233 (1.4)	49 (0.8)»	234 (0.9)»	3 (0.3)«	*** (***)
Florida	50 (2.6)	263 (1.8)	40 (2.7)	257 (2.2)	10 (2.4)	251 (5.8)!
Georgia	34 (2.7)	259 (2.7)	54 (3.0)	260 (1.6)	12 (2.5)	252 (2.9)!
Hawaii	44 (0.8)»	261 (1.4)>	47 (0.8)	259 (1.3)»	10 (0.5)«	229 (2.5)«
Idaho	40 (2.8)	277 (1.3)	47 (2.9)	272 (1.2)	13 (2.4)	273 (2.4)»
Indiana	33 (4.1)>	273 (2.2)	60 (4.3)	268 (1.4)	7 (1.5)«	266 (4.5)!
Iowa	34 (4.3)	284 (1.4)	57 (4.3)	283 (1.2)>	9 (2.4)	277 (4.8)!
Kentucky	33 (3.9)>	268 (2.5)	57 (4.3)	261 (1.3)	10 (2.6)«	252 (3.3)!
Louisiana	34 (3.8)	253 (3.2)	60 (4.0)	248 (2.1)	6 (1.7)	244 (5.9)!
Maine	46 (4.4)	279 (1.8)	43 (4.2)	277 (1.6)	11 (2.7)	278 (3.3)!
Maryland	51 (3.9)	268 (2.3)	42 (3.9)	262 (2.4)	7 (1.9)	266 (4.7)!
Massachusetts	28 (3.1)	277 (2.3)	56 (3.9)	271 (1.9)	16 (2.9)	266 (3.1)
Michigan	40 (4.0)>	266 (3.1)	50 (4.0)	268 (2.1)	10 (2.0)«	265 (5.1)!
Minnesota	53 (3.6)»	283 (1.1)»	44 (3.4)	282 (1.7)>	3 (1.1)<	262 (8.2)!
Mississippi	40 (4.2)	244 (2.3)	55 (4.3)	247 (1.9)	5 (1.4)	241 (6.9)!
Missouri	40 (3.7)	272 (1.9)	46 (4.1)	271 (1.6)	13 (2.7)	267 (2.9)!
Nebraska	46 (4.1)	276 (1.8)	47 (4.2)	278 (1.5)	6 (1.9)<	280 (4.2)!
New Hampshire	56 (3.4)«	279 (1.3)	40 (3.1)>	277 (1.4)»	4 (1.6)	266 (3.5)!
New Jersey	45 (4.7)>	274 (2.9)	52 (4.7)	269 (2.5)	3 (1.1)«	*** (***)
New Mexico	40 (3.1)»	258 (1.6)	51 (3.1)	261 (1.0)	9 (1.5)«	256 (3.6)
New York	27 (2.7)	255 (4.5)	58 (3.1)	268 (2.6)	15 (2.2)	273 (3.7)»
North Carolina	40 (3.2)	262 (2.0)>	53 (3.3)>	257 (1.7)»	7 (1.2)	243 (4.6)
North Dakota	34 (3.3)>	286 (1.7)	59 (3.6)	281 (1.3)	7 (1.5)«	277 (3.7)!
Ohio	45 (5.3)»	269 (2.5)	51 (5.4)	268 (2.4)	4 (1.4)«	263 (4.8)!
Oklahoma	30 (3.5)	267 (2.5)	67 (3.6)	268 (1.2)	3 (0.8)«	254 (7.0)!
Pennsylvania	35 (3.4)	273 (2.9)	51 (3.7)	270 (1.8)	14 (2.6)	267 (4.1)
Rhode Island	53 (0.8)»	266 (0.9)»	42 (0.9)«	265 (1.2)	5 (0.4)«	259 (3.7)
South Carolina	45 (3.5)	263 (2.0)	48 (3.4)	258 (1.7)	6 (1.8)	254 (4.7)!
Tennessee	49 (3.7)	261 (2.3)	43 (3.6)	257 (1.8)	8 (2.3)	244 (2.7)!
Texas	56 (3.5)>	266 (2.1)	36 (3.4)<	263 (2.0)>	8 (1.9)	257 (4.1)!
Utah	37 (2.9)	274 (1.4)	50 (3.3)	273 (1.2)	13 (1.7)	275 (2.5)
Virginia	40 (3.1)	271 (2.0)	51 (3.1)	266 (1.9)	9 (1.8)	256 (3.7)!
West Virginia	35 (3.6)>	262 (1.8)	61 (3.8)	257 (1.3)	4 (1.3)«	244 (5.7)!
Wisconsin	44 (4.6)	280 (2.7)	52 (5.0)	278 (1.7)	4 (1.5)<	264 (4.6)!
Wyoming	34 (2.6)	273 (1.7)	53 (2.9)>	276 (1.2)	13 (2.1)<	272 (2.3)
TERRITORIES						
Guam	23 (0.8)«	250 (1.9)»	64 (1.1)»	229 (1.2)<	13 (0.9)«	235 (3.5)
Virgin Islands	37 (0.9)»	216 (1.9)	59 (0.8)»	222 (1.1)	4 (0.5)«	*** (***)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

TABLE 11.25 | Teachers' Reports on the Amount of Time Spent on In-Service Education in Mathematics or the Teaching of Mathematics During the Last Year (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	16 Hours or More		One to 15 Hours		None	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	39 (3.8)	268 (2.1)	51 (4.1)	260 (1.8)	11 (2.1)	264 (4.5)!
Northeast	38 (8.4)	273 (3.9)!	37 (4.1)	271 (4.0)	25 (7.0)	275 (4.9)!
Southeast	43(10.1)	267 (4.7)!	46(12.0)	250 (3.2)!	11 (6.0)	*** (***)
Central	28 (5.0)	274 (2.7)	71 (5.4)	260 (2.6)	1 (1.3)	*** (***)
West	44 (6.9)	264 (4.1)	45 (7.0)	262 (3.4)	11 (3.0)	261 (6.3)!
STATES						
Alabama	27 (3.6)	254 (2.2)	57 (3.9)	255 (1.5)	15 (2.9)	248 (4.1)
Arizona	23 (1.9)	262 (2.2)	50 (3.1)	261 (1.4)	27 (2.7)	257 (3.4)
Arkansas	46 (3.9)	258 (1.4)	45 (4.1)	256 (1.6)	8 (2.5)	254 (4.0)!
California	43 (2.9)	259 (2.2)	47 (2.9)	256 (1.8)	10 (1.9)	249 (4.7)
Colorado	37 (3.3)	266 (1.8)	49 (3.3)	269 (1.4)	14 (2.1)	261 (2.7)
Connecticut	39 (3.4)	275 (1.7)	52 (3.8)	267 (1.8)	8 (2.0)	261 (3.9)!
Delaware	42 (0.9)	265 (1.8)	45 (1.0)	261 (1.1)	13 (1.0)	255 (2.5)
Dist. Columbia	53 (0.9)	236 (1.5)	41 (1.0)	226 (0.9)	5 (0.4)	222 (4.0)
Florida	44 (3.5)	261 (1.9)	42 (3.7)	254 (1.8)	14 (2.5)	249 (4.4)
Georgia	35 (4.1)	258 (2.1)	48 (4.3)	258 (1.8)	17 (2.6)	257 (3.0)
Hawaii	28 (0.9)	255 (1.3)	45 (0.9)	251 (1.2)	27 (0.8)	249 (1.5)
Idaho	36 (2.0)	276 (1.2)	45 (2.0)	272 (1.2)	19 (1.0)	263 (1.3)
Indiana	16 (2.9)	270 (2.9)	57 (3.9)	267 (1.6)	26 (3.3)	267 (2.2)
Iowa	26 (3.8)	279 (2.6)	58 (4.3)	278 (1.5)	16 (3.6)	277 (2.6)!
Kentucky	18 (3.3)	261 (2.6)	53 (3.6)	256 (1.4)	29 (4.0)	257 (2.0)
Louisiana	37 (4.3)	246 (2.2)	49 (4.3)	246 (1.9)	14 (3.0)	245 (3.5)!
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	47 (3.0)	265 (1.9)	47 (3.2)	259 (2.5)	6 (1.5)	251 (7.1)!
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	26 (3.6)	272 (2.4)	50 (3.7)	262 (1.8)	24 (3.1)	261 (2.8)
Minnesota	34 (3.4)	275 (2.0)	55 (3.5)	276 (1.4)	11 (2.5)	277 (4.0)!
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	37 (2.9)	276 (1.8)	48 (3.1)	276 (1.4)	15 (2.4)	274 (2.9)
New Hampshire	69 (1.4)	275 (1.1)	28 (1.5)	268 (1.6)	3 (0.3)	262 (4.1)
New Jersey	29 (3.1)	273 (3.3)	56 (3.5)	270 (1.5)	14 (3.0)	263 (3.6)!
New Mexico	19 (1.1)	258 (1.5)	45 (1.2)	258 (1.2)	36 (1.2)	254 ([illegible])
New York	23 (2.5)	259 (3.9)	59 (3.4)	262 (1.9)	18 (2.8)	253 (3.2)
North Carolina	51 (3.5)	254 (1.7)	39 (3.6)	248 (1.8)	10 (2.3)	244 (4.1)
North Dakota	25 (2.0)	280 (2.2)	55 (3.6)	283 (1.8)	20 (2.4)	279 (2.[illegible])
Ohio	22 (3.5)	265 (3.1)	63 (3.8)	263 (1.6)	16 (2.7)	265 (2.7)
Oklahoma	26 (3.4)	264 (2.7)	56 (3.4)	265 (1.5)	18 (2.7)	258 (3.2)
Pennsylvania	27 (3.4)	266 (2.9)	54 (3.9)	268 (2.3)	19 (3.3)	261 (2.7)
Rhode Island	22 (0.7)	260 (1.3)	54 (1.1)	265 (1.0)	24 (0.8)	250 (1.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	38 (3.9)	259 (2.4)	49 (3.9)	254 (2.0)	13 (2.6)	256 (4.0)!
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	31 (2.8)	270 (2.5)	56 (3.4)	263 (1.9)	13 (2.[illegible])	255 (4.5)!
West Virginia	22 (3.2)	260 (2.1)	57 (3.9)	256 (1.4)	21 (3.5)	253 (2.4)
Wisconsin	32 (4.0)	279 (2.4)	55 (4.1)	274 (1.7)	13 (2.3)	273 (4.1)
Wyoming	36 (1.3)	275 (0.9)	45 (1.4)	273 (1.0)	20 (1.1)	268 (1.5)
TERRITORIES						
Guam	27 (0.4)	241 (1.6)	25 (0.9)	235 (1.7)	49 (0.9)	226 (1.2)
Virgin Islands	26 (0.7)	219 (2.0)	49 (0.9)	219 (1.2)	25 (0.6)	220 (1.8)

TABLE 11.26 Teachers' Reports on Their Training in Mathematics and Teaching Mathematics, Grades 4 and 8

	Have you ever had training in any of the following in college or in in-service courses?			
	Yes		No	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Estimation				
Grade 4	80 (1.8)	219 (0.9)	20 (1.8)	219 (1.8)
Grade 8	78 (1.9)	268 (1.0)	22 (1.9)	273 (2.2)
Problem-Solving in Mathematics				
Grade 4	92 (1.2)	219 (0.9)	8 (1.2)	218 (2.4)
Grade 8	93 (1.2)	269 (1.0)	7 (1.2)	266 (3.0)
Use of manipulative (e.g. counting blocks or geometric shapes) in Mathematics Instruction				
Grade 4	93 (0.9)	219 (0.9)	7 (0.9)	219 (2.6)
Grade 8	88 (1.6)	269 (1.0)	12 (1.6)	268 (2.8)
Use of Calculators in Mathematics Instruction				
Grade 4	59 (2.4)	220 (1.1)	41 (2.4)	218 (1.1)
Grade 8	76 (2.4)	269 (1.1)	24 (2.4)	267 (2.1)
Understanding Students Thinking about Mathematics				
Grade 4	72 (1.9)	219 (1.0)	28 (1.9)	219 (1.5)
Grade 8	66 (2.4)	268 (1.1)	34 (2.4)	270 (1.6)
Gender Issues in the Teaching of Mathematics				
Grade 4	32 (2.1)	217 (1.7)	68 (2.1)	220 (1.0)
Grade 8	41 (2.3)	269 (1.6)	59 (2.3)	268 (1.1)
Teaching Students from Different Cultural Backgrounds				
Grade 4	42 (2.3)	214 (1.4)	58 (2.3)	222 (1.0)
Grade 8	50 (2.1)	265 (1.7)	50 (2.1)	272 (1.1)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. The percentages may not add to 100 percent because a small number of students reported taking other mathematics courses.

TABLE 11.27 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Estimation

PUBLIC SCHOOLS	Grade 4 - 1992			
	Trained in Estimation		Not Trained in Estimation	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	82 (1.9)	218 (1.0)	18 (1.9)	217 (2.1)
Northeast	76 (4.2)	223 (2.6)	24 (4.2)	221 (5.7)
Southeast	83 (3.1)	208 (2.2)	17 (3.1)	209 (2.5)
Central	81 (4.6)	223 (2.1)	19 (4.6)	225 (4.4)!
West	84 (3.1)	218 (1.6)	16 (3.1)	211 (4.0)!
STATES				
Alabama	79 (3.0)	207 (1.9)	21 (3.0)	209 (2.3)
Arizona	79 (2.4)	214 (1.2)	21 (2.4)	214 (2.1)
Arkansas	76 (2.8)	210 (1.0)	24 (2.8)	208 (1.8)
California	88 (2.2)	208 (1.6)	12 (2.2)	197 (4.6)
Colorado	82 (2.3)	221 (1.1)	18 (2.3)	215 (2.5)
Connecticut	89 (1.9)	228 (1.3)	11 (1.9)	219 (3.6)
Delaware	79 (1.1)	218 (0.7)	21 (1.1)	215 (2.6)
Dist. Columbia	81 (0.7)	191 (0.7)	19 (0.7)	190 (1.8)
Florida	84 (1.8)	214 (1.5)	16 (1.8)	209 (3.2)
Georgia	79 (2.2)	213 (1.4)	21 (2.2)	215 (2.7)
Hawaii	80 (2.7)	212 (1.6)	20 (2.7)	216 (2.8)
Idaho	88 (1.5)	220 (1.0)	12 (1.5)	220 (2.7)
Indiana	78 (2.8)	219 (1.3)	22 (2.8)	221 (1.9)
Iowa	83 (2.7)	229 (1.2)	17 (2.7)	228 (2.0)
Kentucky	82 (2.4)	214 (1.3)	18 (2.4)	212 (2.1)
Louisiana	76 (3.3)	204 (1.5)	24 (3.3)	202 (2.9)
Maine	82 (3.2)	230 (1.1)	18 (3.2)	233 (2.5)
Maryland	84 (2.0)	217 (1.3)	16 (2.0)	215 (2.8)
Massachusetts	82 (2.7)	226 (1.4)	18 (2.7)	223 (2.9)
Michigan	84 (2.2)	219 (1.9)	16 (2.2)	220 (2.4)
Minnesota	77 (2.8)	227 (1.2)	23 (2.8)	228 (2.1)
Mississippi	79 (3.0)	200 (1.2)	21 (3.0)	199 (3.3)
Missouri	79 (2.7)	221 (1.5)	21 (2.7)	222 (2.0)
Nebraska	76 (3.4)	225 (1.5)	24 (3.4)	222 (2.2)
New Hampshire	83 (2.4)	228 (1.3)	17 (2.4)	232 (3.1)
New Jersey	80 (2.8)	227 (1.7)	20 (2.8)	223 (3.3)
New Mexico	73 (2.8)	212 (1.5)	27 (2.8)	212 (2.5)
New York	72 (2.9)	216 (1.4)	28 (2.9)	220 (2.4)
North Carolina	81 (2.5)	212 (1.2)	19 (2.5)	213 (2.1)
North Dakota	77 (3.7)	228 (0.9)	23 (3.7)	228 (2.0)
Ohio	76 (3.0)	218 (1.4)	24 (3.0)	216 (2.4)
Oklahoma	78 (2.8)	219 (1.1)	22 (2.8)	219 (2.2)
Pennsylvania	76 (2.9)	224 (1.6)	24 (2.9)	223 (2.8)
Rhode Island	69 (2.7)	214 (1.8)	31 (2.7)	214 (2.3)
South Carolina	84 (1.9)	211 (1.3)	16 (1.9)	210 (2.8)
Tennessee	76 (2.4)	209 (1.4)	24 (2.4)	211 (2.1)
Texas	76 (2.4)	217 (1.5)	24 (2.4)	215 (1.9)
Utah	75 (3.0)	223 (1.0)	25 (3.0)	223 (2.1)
Virginia	78 (2.2)	219 (1.7)	22 (2.2)	222 (2.2)
West Virginia	82 (2.7)	214 (1.3)	18 (2.7)	214 (2.5)
Wisconsin	81 (2.4)	229 (1.2)	19 (2.4)	222 (2.7)
Wyoming	85 (2.6)	225 (1.1)	15 (2.6)	223 (2.1)
TERRITORY				
Guam	80 (1.0)	193 (1.0)	20 (1.0)	186 (2.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.27 | **Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Estimation (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992			
	Trained in Estimation		Not Trained in Estimation	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	79 (2.2)	266 (1.1)	21 (2.2)	273 (2.3)
Northeast	78 (5.3)	262 (2.9)	22 (5.3)	282 (4.3)!
Southeast	80 (3.8)	261 (1.3)	20 (3.8)	261 (2.4)!
Central	75 (5.9)	274 (2.3)	25 (5.9)	276 (5.5)!
West	81 (3.0)	266 (1.9)	19 (3.0)	270 (4.9)
STATES				
Alabama	81 (3.0)	250 (2.0)	19 (3.0)	256 (3.7)
Arizona	76 (2.9)	264 (1.5)	24 (2.9)	265 (3.0)
Arkansas	65 (3.6)	254 (1.2)	35 (3.6)	258 (2.2)
California	77 (2.8)	262 (2.0)	23 (2.8)	259 (3.1)
Colorado	75 (2.7)	272 (1.3)	25 (2.7)	270 (1.7)
Connecticut	86 (2.7)	274 (1.4)	14 (2.7)	269 (4.0)
Delaware	67 (0.6)	261 (1.1)	33 (0.6)	264 (1.6)
Dist. Columbia	90 (0.8)	234 (1.0)	10 (0.8)	236 (4.2)
Florida	76 (2.5)	260 (1.6)	24 (2.5)	257 (2.7)
Georgia	83 (2.5)	259 (1.3)	17 (2.5)	257 (3.1)
Hawaii	64 (0.8)	256 (1.2)	36 (0.8)	259 (1.4)
Idaho	73 (2.7)	274 (0.9)	27 (2.7)	275 (1.8)
Indiana	67 (3.1)	269 (1.1)	33 (3.1)	269 (2.6)
Iowa	84 (3.0)	283 (1.2)	16 (3.0)	284 (2.0)
Kentucky	77 (2.9)	262 (1.3)	23 (2.9)	261 (2.3)
Louisiana	78 (3.2)	249 (2.0)	22 (3.2)	252 (2.5)
Maine	75 (3.5)	278 (1.1)	25 (3.5)	277 (1.8)
Maryland	80 (2.7)	265 (1.7)	20 (2.7)	266 (3.2)
Massachusetts	77 (2.8)	273 (1.3)	23 (2.8)	269 (2.6)
Michigan	82 (2.7)	266 (1.6)	18 (2.7)	269 (3.4)
Minnesota	73 (2.9)	282 (1.1)	27 (2.9)	282 (2.2)
Mississippi	82 (2.6)	245 (1.5)	18 (2.6)	248 (3.3)
Missouri	78 (3.0)	270 (1.3)	22 (3.0)	274 (2.3)
Nebraska	80 (2.8)	277 (1.4)	20 (2.8)	278 (2.4)
New Hampshire	76 (2.9)	278 (1.0)	24 (2.9)	276 (2.8)
New Jersey	82 (3.3)	272 (1.7)	18 (3.3)	268 (4.0)
New Mexico	75 (3.4)	259 (1.1)	25 (3.4)	259 (1.7)
New York	55 (4.1)	261 (2.8)	45 (4.1)	272 (3.1)
North Carolina	79 (2.8)	257 (1.2)	21 (2.8)	260 (2.7)
North Dakota	68 (4.1)	282 (1.3)	32 (4.1)	284 (1.7)
Ohio	78 (3.3)	268 (2.0)	22 (3.3)	269 (2.9)
Oklahoma	79 (2.6)	268 (1.3)	21 (2.6)	267 (2.6)
Pennsylvania	66 (3.7)	271 (2.0)	34 (3.7)	271 (2.2)
Rhode Island	71 (0.9)	265 (0.9)	29 (0.9)	265 (0.9)
South Carolina	80 (2.7)	260 (1.3)	20 (2.7)	263 (2.7)
Tennessee	75 (3.8)	257 (1.7)	25 (3.8)	259 (2.3)
Texas	74 (3.1)	264 (1.7)	26 (3.1)	264 (2.5)
Utah	74 (2.1)	273 (0.9)	26 (2.1)	274 (2.2)
Virginia	75 (2.5)	268 (1.4)	25 (2.5)	264 (2.0)
West Virginia	78 (3.3)	258 (1.3)	22 (3.3)	258 (2.3)
Wisconsin	79 (4.8)	278 (1.5)	21 (4.8)	278 (3.7)!
Wyoming	54 (3.0)	277 (1.4)	46 (3.0)	272 (1.1)
TERRITORIES				
Guam	57 (1.4)	241 (1.7)	43 (1.4)	225 (1.3)
Virgin Islands	94 (0.6)	221 (1.1)	6 (0.6)	211 (3.4)

TABLE 11.28 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Problem-Solving

PUBLIC SCHOOLS	Grade 4 - 1992			
	Trained in Problem-Solving		Not Trained in Problem-Solving	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	92 (1.3)	218 (1.0)	8 (1.3)	218 (2.8)
Northeast	87 (4.0)	223 (2.8)	13 (4.0)	221 (5.3)!
Southeast	93 (2.4)	208 (2.0)	7 (2.4)	207 (3.3)!
Central	91 (3.0)	224 (2.0)	9 (3.0)	222 (4.4)!
West	94 (1.5)	217 (1.7)	6 (1.5)	218 (4.9)!
STATES				
Alabama	94 (1.8)	208 (1.7)	6 (1.8)	205 (4.0)!
Arizona	91 (1.5)	214 (1.1)	9 (1.5)	211 (3.2)
Arkansas	90 (1.8)	209 (1.0)	10 (1.8)	208 (2.4)
California	95 (1.4)	208 (1.6)	5 (1.4)	195 (6.5)!
Colorado	94 (1.1)	220 (1.0)	6 (1.1)	214 (4.9)
Connecticut	92 (2.0)	227 (1.3)	8 (2.0)	219 (4.0)!
Delaware	94 (0.6)	217 (0.8)	6 (0.6)	212 (4.7)
Dist. Columbia	94 (0.6)	191 (0.7)	6 (0.6)	184 (3.2)
Florida	92 (1.7)	214 (1.5)	8 (1.7)	208 (4.5)!
Georgia	92 (1.7)	213 (1.2)	8 (1.7)	216 (2.9)!
Hawaii	93 (1.4)	213 (1.4)	7 (1.4)	212 (4.9)
Idaho	93 (1.5)	220 (1.0)	7 (1.5)	221 (3.2)!
Indiana	92 (1.5)	220 (1.1)	8 (1.5)	216 (2.3)!
Iowa	95 (1.5)	229 (1.1)	5 (1.5)	223 (4.0)!
Kentucky	88 (2.5)	213 (1.2)	12 (2.5)	214 (2.4)!
Louisiana	90 (2.2)	203 (1.5)	10 (2.2)	205 (3.2)!
Maine	93 (2.2)	231 (1.1)	7 (2.2)	231 (2.7)!
Maryland	94 (1.4)	217 (1.4)	6 (1.4)	216 (3.5)!
Massachusetts	90 (1.8)	226 (1.3)	10 (1.8)	224 (3.2)
Michigan	91 (1.9)	219 (1.9)	9 (1.9)	224 (2.9)!
Minnesota	92 (2.0)	228 (1.1)	8 (2.0)	227 (2.7)!
Mississippi	92 (1.6)	200 (1.2)	8 (1.6)	201 (4.2)!
Missouri	92 (1.9)	221 (1.3)	8 (1.9)	225 (2.2)!
Nebraska	88 (2.4)	225 (1.4)	12 (2.4)	220 (3.3)!
New Hampshire	93 (1.8)	229 (1.2)	7 (1.8)	227 (3.1)!
New Jersey	95 (1.4)	226 (1.6)	5 (1.4)	230 (4.9)!
New Mexico	88 (2.1)	212 (1.5)	12 (2.1)	212 (3.1)!
New York	85 (2.2)	216 (1.4)	15 (2.2)	222 (3.4)
North Carolina	88 (2.0)	212 (1.1)	12 (2.0)	214 (2.3)
North Dakota	93 (1.8)	228 (0.9)	7 (1.8)	229 (3.3)!
Ohio	92 (2.0)	218 (1.3)	8 (2.0)	215 (3.6)!
Oklahoma	91 (1.7)	219 (1.0)	9 (1.7)	220 (3.3)
Pennsylvania	93 (1.4)	223 (1.5)	7 (1.4)	228 (3.8)
Rhode Island	83 (2.2)	214 (1.6)	17 (2.2)	214 (4.0)
South Carolina	94 (1.4)	212 (1.2)	6 (1.4)	205 (4.0)!
Tennessee	92 (1.6)	209 (1.5)	8 (1.6)	211 (3.1)!
Texas	92 (1.4)	217 (1.4)	8 (1.4)	213 (4.3)
Utah	89 (1.9)	223 (1.0)	11 (1.9)	220 (2.6)
Virginia	91 (1.7)	219 (1.5)	9 (1.7)	224 (4.3)
West Virginia	91 (2.3)	214 (1.3)	9 (2.3)	211 (3.0)!
Wisconsin	95 (1.3)	228 (1.1)	5 (1.3)	222 (5.3)!
Wyoming	93 (1.5)	224 (1.0)	7 (1.5)	229 (2.5)!
TERRITORY				
Guam	88 (1.1)	192 (1.0)	12 (1.1)	185 (3.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.28 | **Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Problem-Solving (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992			
	Trained in Problem-Solving		Not Trained in Problem-Solving	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	94 (1.2)	267 (1.0)	6 (1.2)	264 (3.8)!
Northeast	93 (2.8)	267 (3.0)	7 (2.8)	265 (7.3)!
Southeast	93 (2.6)	260 (1.2)	7 (2.6)	263 (5.3)!
Central	98 (1.4)	275 (2.1)	2 (1.4)	*** (***)
West	93 (2.5)	267 (2.2)	7 (2.5)	269 (4.2)!
STATES				
Alabama	95 (1.8)	252 (1.9)	5 (1.8)	243 (7.3)!
Arizona	96 (1.0)	265 (1.3)	4 (1.0)	249 (5.1)!
Arkansas	92 (2.2)	255 (1.2)	8 (2.2)	258 (4.5)!
California	92 (1.5)	262 (1.7)	8 (1.5)	254 (6.4)
Colorado	95 (1.1)	272 (1.1)	5 (1.1)	264 (4.3)!
Connecticut	95 (1.5)	273 (1.2)	5 (1.5)	266 (8.2)!
Delaware	91 (0.4)	262 (1.0)	9 (0.4)	262 (2.8)
Dist. Columbia	100 (0.2)	234 (0.9)	0 (0.2)	*** (***)
Florida	92 (2.3)	259 (1.6)	8 (2.3)	257 (5.6)!
Georgia	93 (1.6)	259 (1.3)	7 (1.6)	252 (4.6)!
Hawaii	89 (0.6)	258 (0.9)	11 (0.6)	249 (1.9
Idaho	94 (1.2)	275 (0.8)	6 (1.2)	271 (4.6)
Indiana	89 (2.6)	269 (1.2)	11 (2.6)	270 (3.5)!
Iowa	93 (2.5)	283 (1.1)	7 (2.5)	281 (3.3)!
Kentucky	91 (2.1)	262 (1.3)	9 (2.1)	258 (2.7)!
Louisiana	97 (0.9)	250 (1.8)	3 (0.9)	239 (9.0)!
Maine	95 (1.3)	278 (1.0)	5 (1.3)	276 (5.1)!
Maryland	94 (1.9)	265 (1.4)	6 (1.9)	259 (6.1)!
Massachusetts	92 (1.5)	272 (1.2)	8 (1.5)	274 (4.2)
Michigan	91 (1.9)	267 (1.5)	9 (1.9)	267 (4.0)!
Minnesota	93 (2.0)	282 (1.0)	7 (2.0)	280 (4.3)!
Mississippi	96 (1.4)	246 (1.3)	4 (1.4)	235 (4.3)!
Missouri	91 (2.3)	271 (1.2)	9 (2.3)	274 (3.2)!
Nebraska	94 (2.2)	277 (1.2)	6 (2.2)	277 (8.2)!
New Hampshire	95 (1.3)	278 (1.1)	5 (1.3)	273 (4.1)!
New Jersey	98 (1.2)	271 (1.6)	2 (1.2)	*** (***)
New Mexico	92 (2.2)	260 (1.0)	8 (2.2)	253 (3.8)!
New York	91 (2.0)	265 (2.2)	9 (2.0)	270 (4.6)!
North Carolina	93 (1.4)	258 (1.2)	7 (1.4)	254 (4.1)
North Dakota	92 (2.0)	283 (1.2)	8 (2.0)	280 (2.3)!
Ohio	93 (2.0)	268 (1.7)	7 (2.0)	268 (5.1)!
Oklahoma	93 (2.0)	267 (1.2)	7 (2.0)	267 (3.8)!
Pennsylvania	86 (2.4)	271 (1.8)	14 (2.4)	268 (3.9)
Rhode Island	86 (0.5)	264 (0.9)	14 (0.5)	273 (1.7)
South Carolina	96 (1.2)	261 (1.0)	4 (1.2)	252 (3.2)!
Tennessee	93 (2.2)	258 (1.4)	7 (2.2)	259 (4.6)!
Texas	93 (1.7)	265 (1.4)	7 (1.7)	250 (4.4)!
Utah	89 (1.3)	274 (0.9)	11 (1.3)	274 (3.5)
Virginia	95 (1.3)	267 (1.2)	5 (1.3)	258 (5.4)!
West Virginia	96 (1.5)	259 (1.0)	4 (1.5)	248 (6.0)!
Wisconsin	95 (1.4)	278 (1.6)	5 (1.4)	275 (3.2)!
Wyoming	80 (2.0)	275 (1.0)	20 (2.0)	274 (1.6)
TERRITORIES				
Guam	80 (1.1)	238 (1.5)	20 (1.1)	223 (2.6)
Virgin Islands	100 (0.1)	221 (1.0)	0 (0.1)	*** (***)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 11.29 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Manipulatives

PUBLIC SCHOOLS	Grade 4 - 1992			
	Trained in Use of Manipulatives		Not Trained in Use of Manipulatives	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	93 (1.0)	218 (1.0)	7 (1.0)	218 (2.6)
Northeast	91 (3.4)	224 (2.4)	9 (3.4)	215 (5.5)!
Southeast	93 (2.4)	208 (2.0)	7 (2.4)	209 (4.1)!
Central	92 (1.5)	224 (2.1)	8 (1.5)	228 (3.8)
West	95 (1.4)	217 (1.7)	5 (1.4)	217 (6.4)!
STATES				
Alabama	96 (1.3)	208 (1.7)	4 (1.3)	205 (4.0)!
Arizona	92 (1.7)	214 (1.1)	8 (1.7)	216 (4.0)!
Arkansas	92 (1.7)	209 (1.0)	8 (1.7)	206 (3.3)!
California	95 (1.2)	208 (1.6)	5 (1.2)	193 (6.0)!
Colorado	93 (1.6)	220 (1.1)	7 (1.6)	216 (3.7)!
Connecticut	96 (1.3)	227 (1.3)	4 (1.3)	227 (8.7)!
Delaware	91 (0.9)	218 (0.8)	9 (0.9)	211 (2.0)
Dist. Columbia	94 (0.3)	191 (0.7)	6 (0.3)	182 (2.4)
Florida	95 (1.4)	213 (1.5)	5 (1.4)	205 (4.8)!
Georgia	94 (1.5)	214 (1.3)	6 (1.5)	204 (3.4)!
Hawaii	94 (1.3)	213 (1.4)	6 (1.3)	215 (3.6)!
Idaho	94 (1.2)	221 (1.0)	6 (1.2)	216 (3.7)!
Indiana	92 (1.7)	219 (1.2)	8 (1.7)	221 (3.3)!
Iowa	93 (1.6)	229 (1.1)	7 (1.6)	228 (3.8)!
Kentucky	90 (2.0)	214 (1.1)	10 (2.0)	211 (2.6)!
Louisiana	94 (1.2)	204 (1.5)	6 (1.2)	197 (4.6)!
Maine	95 (1.7)	231 (1.1)	5 (1.7)	229 (2.6)!
Maryland	96 (1.2)	217 (1.3)	4 (1.2)	220 (6.9)!
Massachusetts	90 (2.9)	226 (1.2)	10 (2.9)	223 (4.9)!
Michigan	91 (2.1)	219 (1.9)	9 (2.1)	220 (2.7)!
Minnesota	94 (1.6)	227 (1.1)	6 (1.6)	229 (2.6)!
Mississippi	97 (1.1)	200 (1.2)	3 (1.1)	202 (6.4)!
Missouri	96 (1.3)	221 (1.2)	4 (1.3)	218 (3.7)!
Nebraska	97 (1.0)	225 (1.3)	3 (1.0)	218 (4.0)!
New Hampshire	96 (1.0)	229 (1.2)	4 (1.0)	228 (3.6)!
New Jersey	92 (2.2)	226 (1.6)	8 (2.2)	228 (6.7)!
New Mexico	91 (2.2)	212 (1.5)	9 (2.2)	208 (4.0)!
New York	86 (2.3)	217 (1.4)	14 (2.3)	216 (5.2)
North Carolina	94 (1.3)	212 (1.0)	6 (1.3)	217 (3.9)!
North Dakota	95 (1.5)	228 (0.9)	5 (1.5)	222 (3.6)!
Ohio	95 (1.4)	218 (1.3)	5 (1.4)	214 (5.2)!
Oklahoma	87 (2.4)	219 (0.9)	13 (2.4)	219 (3.4)
Pennsylvania	89 (2.3)	223 (1.5)	11 (2.3)	224 (3.7)!
Rhode Island	87 (2.2)	214 (1.7)	13 (2.2)	216 (3.7)
South Carolina	95 (1.2)	211 (1.2)	5 (1.2)	208 (4.0)!
Tennessee	93 (1.4)	209 (1.4)	7 (1.4)	216 (2.9)
Texas	93 (1.7)	217 (1.4)	7 (1.7)	213 (4.5)!
Utah	94 (1.5)	223 (1.0)	6 (1.5)	223 (4.2)!
Virginia	94 (1.4)	219 (1.4)	6 (1.4)	225 (5.1)!
West Virginia	90 (2.1)	213 (1.2)	10 (2.1)	217 (3.4)!
Wisconsin	87 (1.7)	229 (1.2)	13 (1.7)	224 (3.5)
Wyoming	92 (1.4)	224 (1.1)	8 (1.4)	228 (3.0)
TERRITORY				
Guam	88 (1.0)	191 (1.0)	12 (1.0)	191 (2.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.29 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Manipulatives (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	Trained in Use of Manipulatives		Not Trained in Use of Manipulatives	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	90 (1.6)	268 (1.1)	10 (1.6)	264 (3.3)
Northeast	94 (2.2)	267 (3.1)	6 (2.2)	267 (9.4)!
Southeast	86 (4.7)	261 (1.1)	14 (4.7)	262 (6.8)!
Central	91 (2.7)	275 (2.3)	9 (2.7)	268 (6.9)!
West	90 (2.4)	267 (2.2)	10 (2.4)	263 (4.0)!
STATES				
Alabama	86 (2.8)	252 (1.6)	14 (2.8)	247 (7.0)
Arizona	87 (2.9)	266 (1.3)	13 (2.9)	257 (4.8)!
Arkansas	84 (3.0)	256 (1.3)	16 (3.0)	255 (3.3)
California	89 (2.1)	261 (1.7)	11 (2.1)	258 (4.9)
Colorado	85 (2.1)	272 (1.2)	15 (2.1)	270 (3.4)
Connecticut	88 (2.4)	274 (1.4)	12 (2.4)	262 (4.6)
Delaware	74 (0.6)	263 (1.1)	26 (0.6)	259 (2.0)
Dist. Columbia	95 (0.6)	233 (0.9)	5 (0.6)	252 (7.4)
Florida	87 (2.6)	260 (1.6)	13 (2.6)	254 (4.6)!
Georgia	88 (2.2)	259 (1.4)	12 (2.2)	253 (4.0)
Hawaii	85 (0.5)	257 (1.0)	15 (0.5)	255 (2.1)
Idaho	76 (3.0)	274 (1.0)	24 (3.0)	275 (1.6)
Indiana	75 (3.0)	269 (1.3)	25 (3.0)	270 (2.6)
Iowa	86 (3.0)	282 (1.1)	14 (3.0)	286 (2.5)!
Kentucky	85 (2.7)	263 (1.3)	15 (2.7)	256 (3.0)
Louisiana	87 (2.6)	249 (1.7)	13 (2.6)	252 (4.3)!
Maine	89 (2.7)	279 (1.0)	11 (2.7)	272 (3.2)!
Maryland	90 (2.3)	265 (1.5)	10 (2.3)	265 (4.9)!
Massachusetts	79 (3.3)	274 (1.4)	21 (3.3)	267 (2.1)
Michigan	83 (2.5)	267 (1.5)	17 (2.5)	268 (4.0)
Minnesota	78 (3.0)	282 (1.1)	22 (3.0)	280 (2.2)
Mississippi	89 (2.5)	246 (1.4)	11 (2.5)	241 (2.9)!
Missouri	85 (2.8)	271 (1.2)	15 (2.8)	273 (3.0)
Nebraska	87 (2.3)	278 (1.3)	13 (2.3)	275 (2.7)
New Hampshire	82 (2.5)	278 (1.2)	18 (2.5)	276 (1.9)
New Jersey	88 (2.8)	272 (1.5)	12 (2.8)	264 (6.1)!
New Mexico	86 (2.2)	260 (1.0)	14 (2.2)	256 (2.8)
New York	81 (2.8)	264 (2.3)	19 (2.8)	273 (4.0)
North Carolina	87 (1.8)	257 (1.2)	13 (1.8)	260 (2.7)
North Dakota	71 (3.9)	282 (1.3)	29 (3.9)	285 (1.6)
Ohio	82 (3.3)	268 (1.8)	18 (3.3)	268 (3.3)
Oklahoma	76 (3.7)	267 (1.4)	24 (3.7)	267 (2.1)
Pennsylvania	78 (3.0)	270 (1.8)	22 (3.0)	271 (2.8)
Rhode Island	75 (0.8)	263 (0.9)	25 (0.8)	270 (1.6)
South Carolina	91 (2.1)	260 (1.2)	9 (2.1)	261 (3.1)!
Tennessee	85 (2.9)	258 (1.5)	15 (2.9)	258 (3.1)
Texas	87 (2.3)	265 (1.6)	13 (2.3)	260 (2.5)
Utah	74 (2.5)	275 (1.0)	26 (2.5)	272 (1.7)
Virginia	85 (2.4)	268 (1.3)	15 (2.4)	262 (3.5)
West Virginia	85 (2.6)	259 (1.1)	15 (2.6)	252 (2.3)
Wisconsin	82 (4.8)	277 (1.7)	18 (4.8)	283 (2.7)!
Wyoming	71 (3.1)	274 (1.1)	29 (3.1)	275 (1.4)
TERRITORIES				
Guam	90 (0.5)	237 (1.2)	10 (0.5)	212 (3.7)
Virgin Islands	69 (0.8)	222 (1.3)	31 (0.8)	217 (1.8)

TABLE 11.30 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Calculators

PUBLIC SCHOOLS	Grade 4 - 1992			
	Trained in Calculator Use		Not Trained in Calculator Use	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	60 (2.7)	219 (1.2)	40 (2.7)	216 (1.3)
Northeast	61 (4.1)	227 (3.3)	39 (4.1)	216 (2.7)
Southeast	58 (6.1)	208 (2.5)	42 (6.1)	207 (2.5)
Central	58 (7.8)	223 (2.3)	42 (7.8)	225 (2.4)
West	63 (2.7)	218 (1.7)	37 (2.7)	216 (2.4)
STATES				
Alabama	58 (3.4)	208 (1.9)	42 (3.4)	207 (1.9)
Arizona	59 (3.3)	215 (1.6)	41 (3.3)	214 (1.7)
Arkansas	57 (3.3)	209 (1.2)	43 (3.3)	210 (1.5)
California	70 (3.7)	208 (1.9)	30 (3.7)	205 (3.0)
Colorado	65 (2.9)	221 (1.6)	35 (2.9)	218 (1.9)
Connecticut	66 (3.3)	229 (1.5)	34 (3.3)	224 (2.5)
Delaware	65 (0.7)	219 (1.1)	35 (0.7)	214 (1.2)
Dist. Columbia	79 (0.9)	191 (0.9)	21 (0.9)	188 (1.8)
Florida	73 (3.2)	215 (1.7)	27 (3.2)	209 (2.4)
Georgia	62 (3.8)	213 (1.8)	38 (3.8)	215 (2.0)
Hawaii	75 (2.7)	212 (1.5)	25 (2.7)	215 (2.4)
Idaho	70 (3.0)	221 (1.2)	30 (3.0)	220 (1.5)
Indiana	52 (3.7)	219 (1.5)	48 (3.7)	220 (1.5)
Iowa	66 (3.2)	231 (1.2)	34 (3.2)	225 (1.9)
Kentucky	56 (4.3)	214 (1.6)	44 (4.3)	212 (1.5)
Louisiana	56 (3.5)	205 (2.1)	44 (3.5)	202 (1.9)
Maine	59 (3.9)	231 (1.3)	41 (3.9)	230 (1.7)
Maryland	79 (2.7)	218 (1.6)	21 (2.7)	215 (2.5)
Massachusetts	51 (4.0)	229 (1.7)	49 (4.0)	222 (1.6)
Michigan	71 (3.1)	218 (2.0)	29 (3.1)	222 (2.4)
Minnesota	63 (3.1)	226 (1.5)	37 (3.1)	231 (1.5)
Mississippi	69 (3.0)	201 (1.4)	31 (3.0)	198 (2.6)
Missouri	64 (3.2)	222 (1.6)	36 (3.2)	220 (1.7)
Nebraska	63 (3.6)	227 (1.5)	37 (3.6)	220 (1.5)
New Hampshire	56 (3.2)	232 (1.5)	44 (3.2)	226 (1.7)
New Jersey	57 (2.9)	227 (1.8)	43 (2.9)	225 (2.2)
New Mexico	53 (3.8)	214 (2.0)	47 (3.8)	209 (1.7)
New York	41 (4.1)	214 (2.3)	59 (4.1)	219 (1.8)
North Carolina	70 (3.1)	212 (1.3)	30 (3.1)	213 (2.0)
North Dakota	57 (3.8)	227 (1.1)	43 (3.8)	228 (1.4)
Ohio	64 (4.0)	216 (1.8)	36 (4.0)	219 (2.0)
Oklahoma	48 (3.3)	218 (1.3)	52 (3.3)	220 (1.5)
Pennsylvania	60 (3.2)	224 (1.7)	40 (3.2)	223 (2.2)
Rhode Island	53 (3.4)	215 (2.2)	47 (3.4)	214 (1.9)
South Carolina	65 (2.8)	212 (1.4)	35 (2.8)	211 (2.0)
Tennessee	52 (3.3)	209 (1.7)	48 (3.3)	211 (1.6)
Texas	61 (3.3)	218 (1.3)	39 (3.3)	215 (2.2)
Utah	60 (3.4)	223 (1.3)	40 (3.4)	222 (1.6)
Virginia	65 (2.3)	221 (1.7)	35 (2.3)	217 (1.8)
West Virginia	63 (3.1)	213 (1.5)	37 (3.1)	214 (1.3)
Wisconsin	65 (3.1)	229 (1.6)	35 (3.1)	227 (2.0)
Wyoming	64 (3.0)	225 (1.2)	36 (3.0)	224 (1.2)
TERRITORY				
Guam	52 (1.1)	193 (1.1)	48 (1.1)	190 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 11.30 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Calculators (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	Trained in Calculator Use		Not Trained in Calculator Use	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	77 (2.7)	267 (1.3)	23 (2.7)	266 (2.4)
Northeast	72 (6.9)	265 (4.3)	28 (6.9)	271 (6.8)[!]
Southeast	74 (5.6)	260 (1.3)	26 (5.6)	262 (3.0)[!]
Central	79 (6.7)	275 (2.4)	21 (6.7)	271 (4.0)[!]
West	82 (2.8)	268 (2.0)	18 (2.8)	260 (3.8)
STATES				
Alabama	74 (3.3)	254 (1.9)	26 (3.3)	244 (3.7)
Arizona	70 (3.2)	267 (1.5)	30 (3.2)	260 (2.6)
Arkansas	78 (3.3)	256 (1.3)	22 (3.3)	254 (3.1)
California	78 (3.3)	261 (1.9)	22 (3.3)	260 (3.4)
Colorado	69 (2.8)	273 (1.4)	31 (2.8)	270 (1.6)
Connecticut	83 (2.6)	274 (1.4)	17 (2.6)	268 (4.3)
Delaware	76 (0.7)	262 (1.1)	24 (0.7)	263 (2.3)
Dist. Columbia	93 (0.8)	233 (0.9)	7 (0.8)	250 (5.9)
Florida	79 (2.8)	261 (1.4)	21 (2.8)	253 (4.2)
Georgia	73 (2.9)	259 (1.6)	27 (2.9)	257 (2.0)
Hawaii	66 (0.8)	257 (1.1)	34 (0.8)	257 (1.5)
Idaho	76 (2.5)	275 (1.0)	24 (2.5)	272 (1.6)
Indiana	65 (3.4)	269 (1.3)	35 (3.4)	271 (2.5)
Iowa	72 (3.4)	283 (1.2)	28 (3.4)	283 (2.1)
Kentucky	67 (3.4)	263 (1.7)	33 (3.4)	261 (1.5)
Louisiana	74 (3.2)	249 (1.8)	26 (3.2)	251 (3.0)
Maine	69 (4.2)	281 (1.2)	31 (4.2)	272 (1.6)
Maryland	88 (2.7)	265 (1.5)	12 (2.7)	263 (4.1)[!]
Massachusetts	59 (3.5)	275 (1.8)	41 (3.5)	268 (1.9)
Michigan	79 (2.5)	266 (1.3)	21 (2.5)	270 (3.1)
Minnesota	68 (4.0)	284 (1.0)	32 (4.0)	278 (2.0)
Mississippi	70 (3.0)	245 (1.7)	30 (3.0)	247 (2.6)
Missouri	73 (3.4)	271 (1.3)	27 (3.4)	270 (2.1)
Nebraska	76 (3.5)	277 (1.3)	24 (3.5)	277 (2.5)
New Hampshire	83 (2.0)	278 (1.0)	17 (2.0)	274 (2.4)
New Jersey	78 (3.6)	274 (2.0)	22 (3.6)	263 (4.2)
New Mexico	65 (3.6)	259 (1.1)	35 (3.6)	259 (1.5)
New York	61 (4.3)	259 (3.2)	39 (4.3)	276 (2.8)
North Carolina	77 (3.2)	259 (1.4)	23 (3.2)	254 (2.8)
North Dakota	66 (4.3)	281 (1.3)	34 (4.3)	286 (1.8)
Ohio	71 (5.0)	266 (2.1)	29 (5.0)	272 (3.8)
Oklahoma	66 (4.1)	267 (1.5)	34 (4.1)	269 (1.7)
Pennsylvania	69 (3.7)	272 (1.9)	31 (3.7)	267 (2.4)
Rhode Island	71 (0.8)	265 (0.9)	29 (0.8)	267 (1.2)
South Carolina	72 (3.3)	261 (1.5)	28 (3.3)	259 (2.3)
Tennessee	65 (4.1)	259 (1.7)	35 (4.1)	256 (2.4)
Texas	85 (2.4)	264 (1.5)	15 (2.4)	262 (3.1)
Utah	66 (2.6)	274 (1.2)	34 (2.6)	273 (1.4)
Virginia	77 (2.8)	268 (1.4)	23 (2.8)	264 (2.0)
West Virginia	73 (2.9)	259 (1.3)	27 (2.9)	257 (1.8)
Wisconsin	76 (4.6)	279 (1.8)	24 (4.6)	275 (3.8)[!]
Wyoming	62 (2.4)	275 (1.4)	38 (2.4)	273 (1.3)
TERRITORIES				
Guam	67 (0.7)	238 (1.6)	33 (0.7)	227 (1.5)
Virgin Islands	67 (0.9)	218 (1.1)	33 (0.9)	225 (1.6)

[!] Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 11.31 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Understanding Students' Thinking About Mathematics

PUBLIC SCHOOLS	Grade 4 - 1992			
	Trained in Understanding Student Thinking		Not Trained in Understanding Student Thinking	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	72 (2.1)	218 (1.1)	28 (2.1)	218 (1.7)
Northeast	72 (5.1)	222 (2.6)	28 (5.1)	224 (4.5)[!]
Southeast	74 (5.0)	207 (2.8)	26 (5.0)	209 (3.0)
Central	68 (3.7)	223 (2.3)	32 (3.7)	225 (2.7)
West	74 (2.8)	219 (2.0)	26 (2.8)	212 (3.4)
STATES				
Alabama	72 (3.0)	207 (1.8)	28 (3.0)	209 (2.6)
Arizona	71 (2.8)	214 (1.2)	29 (2.8)	214 (2.1)
Arkansas	60 (3.5)	210 (1.3)	40 (3.5)	208 (1.4)
California	73 (2.7)	209 (1.8)	27 (2.7)	203 (3.5)
Colorado	73 (2.8)	220 (1.3)	27 (2.8)	218 (2.1)
Connecticut	77 (2.6)	229 (1.5)	23 (2.6)	221 (2.5)
Delaware	74 (1.1)	218 (0.9)	26 (1.1)	216 (1.4)
Dist. Columbia	66 (0.9)	192 (1.0)	34 (0.9)	188 (1.2)
Florida	74 (2.5)	213 (1.8)	26 (2.5)	214 (2.2)
Georgia	71 (2.9)	213 (1.5)	29 (2.9)	214 (2.3)
Hawaii	70 (2.6)	212 (1.6)	30 (2.6)	214 (2.3)
Idaho	72 (2.9)	221 (1.2)	28 (2.9)	220 (1.6)
Indiana	65 (3.1)	220 (1.3)	35 (3.1)	218 (1.7)
Iowa	76 (2.8)	229 (1.2)	24 (2.8)	229 (2.1)
Kentucky	56 (3.5)	213 (1.5)	44 (3.5)	213 (1.5)
Louisiana	71 (2.8)	205 (1.5)	29 (2.8)	201 (2.6)
Maine	69 (3.6)	231 (1.3)	31 (3.6)	229 (1.6)
Maryland	76 (2.9)	216 (1.6)	24 (2.9)	218 (3.4)
Massachusetts	73 (3.2)	227 (1.4)	27 (3.2)	222 (2.2)
Michigan	70 (3.0)	218 (2.0)	30 (3.0)	222 (2.7)
Minnesota	73 (2.9)	227 (1.3)	27 (2.9)	229 (1.6)
Mississippi	74 (3.0)	201 (1.2)	26 (3.0)	197 (2.4)
Missouri	65 (3.3)	223 (1.5)	35 (3.3)	218 (1.9)
Nebraska	68 (2.8)	225 (1.6)	32 (2.8)	223 (1.9)
New Hampshire	83 (2.6)	229 (1.3)	17 (2.6)	228 (2.6)
New Jersey	74 (2.9)	227 (1.7)	26 (2.9)	222 (3.1)
New Mexico	64 (3.5)	213 (1.6)	36 (3.5)	210 (2.1)
New York	68 (2.9)	216 (1.6)	32 (2.9)	220 (1.9)
North Carolina	61 (3.2)	212 (1.6)	39 (3.2)	213 (1.2)
North Dakota	68 (3.5)	227 (1.0)	32 (3.5)	230 (1.6)
Ohio	69 (3.6)	218 (1.5)	31 (3.6)	216 (2.4)
Oklahoma	74 (3.0)	219 (1.1)	26 (3.0)	219 (2.2)
Pennsylvania	70 (3.0)	224 (1.6)	30 (3.0)	223 (2.3)
Rhode Island	59 (3.0)	214 (2.2)	41 (3.0)	215 (2.0)
South Carolina	68 (3.0)	213 (1.4)	32 (3.0)	207 (1.8)
Tennessee	66 (2.6)	209 (1.8)	34 (2.6)	210 (1.8)
Texas	67 (2.7)	217 (1.3)	33 (2.7)	216 (2.3)
Utah	62 (2.9)	223 (1.2)	38 (2.9)	223 (1.5)
Virginia	75 (2.3)	218 (1.5)	25 (2.3)	224 (2.0)
West Virginia	59 (3.8)	215 (1.5)	41 (3.8)	212 (1.3)
Wisconsin	73 (2.7)	229 (1.3)	27 (2.7)	224 (2.0)
Wyoming	72 (2.9)	225 (1.2)	28 (2.9)	224 (1.6)
TERRITORY				
Guam	65 (1.3)	192 (1.0)	35 (1.3)	190 (1.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. [!] Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.31 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Understanding Students' Thinking About Mathematics (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	Trained in Understanding Student Thinking		Not Trained in Understanding Student Thinking	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	66 (2.6)	266 (1.2)	34 (2.6)	269 (1.7)
Northeast	68 (5.8)	262 (2.7)	32 (5.8)	277 (5.7)
Southeast	62 (7.4)	260 (1.7)	38 (7.4)	263 (2.9)!
Central	71 (4.8)	274 (2.8)	29 (4.8)	274 (2.8)
West	65 (2.0)	267 (2.6)	35 (2.0)	266 (2.5)
STATES				
Alabama	74 (3.0)	251 (2.2)	26 (3.0)	252 (3.3)
Arizona	70 (3.6)	265 (1.6)	30 (3.6)	263 (2.4)
Arkansas	60 (3.8)	255 (1.4)	40 (3.8)	257 (2.1)
California	69 (3.2)	263 (2.2)	31 (3.2)	257 (2.5)
Colorado	66 (3.2)	272 (1.4)	34 (3.2)	272 (1.6)
Connecticut	77 (3.1)	274 (1.5)	23 (3.1)	270 (3.3)
Delaware	65 (1.0)	262 (1.0)	35 (1.0)	262 (2.2)
Dist. Columbia	74 (1.2)	235 (1.1)	26 (1.2)	232 (1.9)
Florida	67 (2.9)	260 (1.7)	33 (2.9)	259 (2.9)
Georgia	72 (3.2)	260 (1.4)	28 (3.2)	256 (2.5)
Hawaii	56 (1.0)	257 (1.2)	44 (1.0)	256 (1.3)
Idaho	58 (2.8)	274 (1.1)	42 (2.8)	275 (1.4)
Indiana	62 (3.8)	271 (1.5)	38 (3.8)	268 (1.8)
Iowa	70 (4.1)	283 (1.3)	30 (4.1)	283 (1.6)
Kentucky	62 (4.1)	263 (1.5)	38 (4.1)	260 (1.7)
Louisiana	65 (3.4)	250 (2.3)	35 (3.4)	248 (2.2)
Maine	61 (3.7)	277 (1.1)	39 (3.7)	280 (1.7)
Maryland	77 (2.8)	265 (1.7)	23 (2.8)	266 (3.2)
Massachusetts	67 (3.1)	274 (1.6)	33 (3.1)	269 (2.4)
Michigan	67 (2.7)	265 (1.7)	33 (2.7)	271 (2.1)
Minnesota	56 (3.7)	284 (1.4)	44 (3.7)	280 (1.7)
Mississippi	70 (3.6)	245 (1.7)	30 (3.6)	248 (2.9)
Missouri	67 (3.5)	271 (1.3)	33 (3.5)	270 (1.9)
Nebraska	60 (4.3)	277 (1.5)	40 (4.3)	278 (1.9)
New Hampshire	74 (2.5)	279 (1.2)	26 (2.5)	274 (1.6)
New Jersey	73 (4.0)	273 (1.9)	27 (4.0)	266 (4.3)
New Mexico	59 (3.1)	261 (1.2)	41 (3.1)	257 (1.4)
New York	67 (3.2)	263 (2.5)	33 (3.2)	271 (3.1)
North Carolina	64 (3.2)	258 (1.5)	36 (3.2)	258 (2.2)
North Dakota	59 (3.5)	282 (1.2)	41 (3.5)	283 (1.9)
Ohio	58 (4.6)	268 (2.0)	42 (4.6)	268 (2.1)
Oklahoma	59 (4.2)	267 (1.6)	41 (4.2)	267 (1.8)
Pennsylvania	67 (3.1)	272 (2.2)	33 (3.1)	268 (2.2)
Rhode Island	63 (0.9)	265 (0.9)	37 (0.9)	264 (1.2)
South Carolina	68 (3.6)	260 (1.4)	32 (3.6)	262 (2.2)
Tennessee	63 (3.7)	260 (1.7)	37 (3.7)	255 (2.1)
Texas	57 (3.5)	266 (2.0)	43 (3.5)	261 (2.0)
Utah	53 (2.4)	277 (1.1)	47 (2.4)	270 (1.4)
Virginia	69 (2.9)	269 (1.6)	31 (2.9)	263 (2.0)
West Virginia	65 (3.2)	259 (1.4)	35 (3.2)	257 (1.2)
Wisconsin	75 (4.7)	279 (1.7)	25 (4.7)	276 (3.7)!
Wyoming	52 (2.7)	275 (1.3)	48 (2.7)	274 (1.2)
TERRITORIES				
Guam	42 (1.4)	241 (1.8)	58 (1.4)	230 (1.4)
Virgin Islands	54 (1.1)	218 (1.2)	46 (1.1)	223 (1.6)

TABLE 11.32 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Gender Issues

PUBLIC SCHOOLS	Grade 4 - 1992			
	Trained in Gender Issues		Not Trained in Gender Issues	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	33 (2.4)	216 (1.9)	67 (2.4)	219 (1.1)
Northeast	30 (5.4)	222 (3.9)!	70 (5.4)	223 (3.3)
Southeast	31 (2.9)	203 (3.3)	69 (2.9)	210 (1.9)
Central	27 (6.0)	222 (4.5)!	73 (6.0)	225 (2.1)
West	41 (4.0)	217 (2.9)	59 (4.0)	217 (1.6)
STATES				
Alabama	41 (3.4)	209 (1.8)	59 (3.4)	207 (1.9)
Arizona	34 (2.8)	214 (1.7)	66 (2.8)	215 (1.3)
Arkansas	29 (3.2)	207 (1.9)	71 (3.2)	210 (1.2)
California	42 (3.3)	209 (2.4)	58 (3.3)	205 (1.8)
Colorado	46 (2.7)	221 (1.8)	54 (2.7)	219 (1.2)
Connecticut	34 (3.1)	227 (2.4)	66 (3.1)	227 (1.7)
Delaware	37 (1.1)	219 (1.3)	63 (1.1)	216 (1.0)
Dist. Columbia	40 (0.8)	188 (1.1)	60 (0.8)	192 (1.2)
Florida	40 (2.9)	212 (2.1)	60 (2.9)	213 (1.9)
Georgia	35 (2.7)	212 (1.7)	65 (2.7)	214 (1.6)
Hawaii	34 (2.7)	212 (2.2)	66 (2.7)	213 (1.7)
Idaho	36 (3.0)	220 (1.7)	64 (3.0)	221 (1.1)
Indiana	25 (2.5)	221 (2.3)	75 (2.5)	219 (1.2)
Iowa	41 (3.6)	230 (1.7)	59 (3.6)	228 (1.4)
Kentucky	32 (3.7)	215 (1.9)	68 (3.7)	213 (1.1)
Louisiana	36 (3.6)	203 (2.6)	64 (3.6)	204 (1.7)
Maine	42 (3.7)	233 (1.8)	58 (3.7)	229 (1.4)
Maryland	41 (2.7)	216 (2.1)	59 (2.7)	217 (1.9)
Massachusetts	31 (2.9)	226 (2.1)	69 (2.9)	225 (1.5)
Michigan	31 (3.4)	216 (3.2)	69 (3.4)	221 (1.9)
Minnesota	41 (3.0)	226 (2.0)	59 (3.0)	229 (1.2)
Mississippi	45 (4.1)	199 (1.9)	55 (4.1)	201 (1.8)
Missouri	30 (3.1)	220 (2.5)	70 (3.1)	222 (1.4)
Nebraska	44 (3.9)	227 (2.0)	56 (3.9)	223 (1.5)
New Hampshire	36 (3.4)	230 (2.0)	64 (3.4)	228 (1.5)
New Jersey	38 (3.1)	228 (2.2)	62 (3.1)	225 (1.8)
New Mexico	34 (2.9)	214 (2.5)	66 (2.9)	211 (1.5)
New York	28 (2.6)	215 (2.6)	72 (2.6)	218 (1.6)
North Carolina	32 (2.9)	211 (1.5)	68 (2.9)	213 (1.3)
North Dakota	29 (3.7)	228 (1.7)	71 (3.7)	228 (1.0)
Ohio	31 (3.4)	217 (2.3)	69 (3.4)	217 (1.4)
Oklahoma	39 (3.2)	217 (1.3)	61 (3.2)	221 (1.3)
Pennsylvania	27 (2.4)	223 (2.9)	73 (2.4)	224 (1.5)
Rhode Island	22 (2.7)	214 (3.2)	78 (2.7)	215 (1.6)
South Carolina	33 (3.5)	212 (1.9)	67 (3.5)	211 (1.4)
Tennessee	31 (3.0)	210 (2.1)	69 (3.0)	210 (1.5)
Texas	32 (2.3)	214 (2.1)	68 (2.3)	218 (1.7)
Utah	30 (2.9)	222 (1.8)	70 (2.9)	223 (1.3)
Virginia	36 (3.5)	220 (2.4)	64 (3.5)	220 (1.6)
West Virginia *	31 (3.7)	214 (1.8)	69 (3.7)	213 (1.3)
Wisconsin	40 (3.1)	230 (1.6)	60 (3.1)	226 (1.4)
Wyoming	40 (3.1)	226 (1.4)	60 (3.1)	224 (1.1)
TERRITORY				
Guam	44 (1.2)	194 (1.1)	56 (1.2)	190 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.32 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Gender Issues (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	Trained in Gender Issues		Not Trained in Gender Issues	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	42 (2.7)	268 (1.8)	58 (2.7)	266 (1.3)
Northeast	42 (7.0)	266 (5.7)	58 (7.0)	267 (3.6)
Southeast	35 (4.4)	262 (2.9)	65 (4.4)	261 (1.5)
Central	50 (6.0)	276 (3.2)	50 (6.0)	273 (3.0)
West	43 (4.6)	267 (2.4)	57 (4.6)	266 (2.6)
STATES				
Alabama	34 (4.6)	249 (2.1)	66 (4.6)	252 (2.4)
Arizona	43 (4.0)	266 (2.0)	57 (4.0)	263 (1.7)
Arkansas	34 (4.0)	254 (2.2)	66 (4.0)	257 (1.5)
California	42 (3.5)	259 (2.7)	58 (3.5)	263 (2.1)
Colorado	54 (3.1)	274 (1.6)	46 (3.1)	269 (1.5)
Connecticut	45 (4.1)	276 (2.3)	55 (4.1)	270 (2.1)
Delaware	49 (1.0)	262 (1.4)	51 (1.0)	261 (1.3)
Dist. Columbia	47 (1.2)	234 (1.4)	53 (1.2)	235 (1.2)
Florida	39 (2.9)	262 (2.3)	61 (2.9)	258 (1.7)
Georgia	47 (3.9)	259 (2.3)	53 (3.9)	259 (1.8)
Hawaii	31 (0.9)	254 (1.7)	69 (0.9)	258 (1.0)
Idaho	45 (2.8)	274 (1.2)	55 (2.8)	274 (1.1)
Indiana	36 (4.0)	269 (2.1)	64 (4.0)	270 (1.4)
Iowa	55 (4.6)	282 (1.4)	45 (4.6)	284 (1.4)
Kentucky	37 (3.9)	265 (2.1)	63 (3.9)	260 (1.3)
Louisiana	38 (3.6)	247 (2.6)	62 (3.6)	251 (2.0)
Maine	43 (4.1)	280 (1.7)	57 (4.1)	276 (1.3)
Maryland	66 (3.6)	265 (2.0)	34 (3.6)	264 (2.4)
Massachusetts	32 (3.3)	274 (2.9)	68 (3.3)	271 (1.3)
Michigan	42 (3.5)	264 (2.4)	58 (3.5)	269 (1.9)
Minnesota	44 (3.4)	285 (1.5)	56 (3.4)	279 (1.5)
Mississippi	47 (4.1)	247 (2.2)	53 (4.1)	244 (1.9)
Missouri	34 (3.1)	271 (1.8)	66 (3.1)	271 (1.4)
Nebraska	60 (3.2)	275 (1.4)	40 (3.2)	281 (1.7)
New Hampshire	56 (3.4)	278 (1.4)	44 (3.4)	277 (1.3)
New Jersey	36 (4.0)	272 (3.0)	64 (4.0)	271 (2.1)
New Mexico	41 (3.4)	259 (1.5)	59 (3.4)	259 (1.2)
New York	37 (3.9)	260 (4.3)	63 (3.9)	269 (2.7)
North Carolina	38 (3.2)	260 (1.6)	62 (3.2)	256 (1.6)
North Dakota	44 (4.2)	284 (1.7)	56 (4.2)	282 (1.3)
Ohio	38 (4.1)	265 (2.5)	62 (4.1)	270 (1.8)
Oklahoma	40 (4.5)	265 (2.3)	60 (4.5)	269 (1.6)
Pennsylvania	39 (3.5)	275 (2.2)	61 (3.5)	268 (1.8)
Rhode Island	39 (0.8)	262 (1.2)	61 (0.8)	267 (0.9)
South Carolina	34 (3.2)	259 (2.2)	66 (3.2)	261 (1.4)
Tennessee	34 (3.4)	258 (2.9)	66 (3.4)	258 (1.7)
Texas	32 (3.1)	265 (2.4)	68 (3.1)	264 (1.6)
Utah	45 (2.7)	274 (1.2)	55 (2.7)	273 (1.2)
Virginia	45 (3.6)	269 (1.6)	55 (3.6)	266 (1.8)
West Virginia	44 (3.0)	259 (1.5)	56 (3.0)	258 (1.3)
Wisconsin	53 (4.5)	281 (2.2)	47 (4.5)	276 (1.7)
Wyoming	37 (2.8)	275 (1.7)	63 (2.8)	274 (1.0)
TERRITORIES				
Guam	25 (1.1)	241 (2.6)	75 (1.1)	233 (1.2)
Virgin Islands	39 (1.0)	221 (1.3)	61 (1.0)	221 (1.4)

TABLE 11.33 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Teaching Students from Different Cultural Backgrounds

PUBLIC SCHOOLS	Grade 4 - 1992			
	Trained in Teaching Students from Different Backgrounds		Not Trained in Teaching Students from Different Backgrounds	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	43 (2.5)	213 (1.6)	57 (2.5)	222 (1.1)
Northeast	38 (5.5)	215 (3.5)	62 (5.5)	227 (3.7)
Southeast	48 (5.1)	204 (2.7)	52 (5.1)	212 (1.6)
Central	34 (5.2)	220 (3.8)	66 (5.2)	226 (1.8)
West	51 (4.3)	214 (2.6)	49 (4.3)	220 (1.7)
STATES				
Alabama	45 (3.6)	209 (2.2)	55 (3.6)	207 (2.0)
Arizona	51 (3.1)	212 (1.6)	49 (3.1)	217 (1.4)
Arkansas	41 (3.0)	206 (1.5)	59 (3.0)	212 (1.2)
California	69 (3.5)	205 (2.2)	31 (3.5)	212 (2.3)
Colorado	52 (2.6)	218 (1.5)	48 (2.6)	222 (1.4)
Connecticut	36 (3.1)	223 (2.4)	64 (3.1)	229 (1.5)
Delaware	48 (1.0)	219 (1.2)	52 (1.0)	215 (1.1)
Dist. Columbia	48 (1.0)	195 (1.0)	52 (1.0)	187 (1.1)
Florida	68 (3.4)	214 (1.9)	32 (3.4)	211 (2.1)
Georgia	43 (3.6)	210 (2.0)	57 (3.6)	216 (1.8)
Hawaii	51 (3.0)	211 (1.6)	49 (3.0)	215 (2.0)
Idaho	35 (3.0)	219 (1.6)	65 (3.0)	221 (1.0)
Indiana	32 (3.3)	217 (2.3)	68 (3.3)	220 (1.2)
Iowa	45 (3.3)	229 (1.7)	55 (3.3)	229 (1.3)
Kentucky	31 (3.8)	212 (2.1)	69 (3.8)	214 (1.2)
Louisiana	47 (3.5)	203 (2.3)	53 (3.5)	205 (2.2)
Maine	12 (1.9)	228 (2.8)	88 (1.9)	231 (1.2)
Maryland	55 (2.9)	217 (1.9)	45 (2.9)	217 (2.3)
Massachusetts	32 (3.2)	217 (2.5)	68 (3.2)	230 (1.4)
Michigan	38 (3.9)	212 (3.6)	62 (3.9)	224 (1.6)
Minnesota	44 (3.3)	225 (1.8)	56 (3.3)	230 (1.2)
Mississippi	48 (3.3)	198 (2.0)	52 (3.3)	202 (1.5)
Missouri	33 (2.7)	221 (2.5)	67 (2.7)	222 (1.4)
Nebraska	60 (3.4)	223 (1.5)	40 (3.4)	226 (1.8)
New Hampshire	23 (3.4)	230 (2.4)	77 (3.4)	229 (1.3)
New Jersey	48 (3.6)	225 (2.1)	52 (3.6)	227 (2.0)
New Mexico	53 (3.3)	212 (2.0)	47 (3.3)	212 (1.6)
New York	44 (2.9)	211 (2.1)	56 (2.9)	222 (1.7)
North Carolina	39 (2.8)	211 (1.8)	61 (2.8)	213 (1.2)
North Dakota	29 (3.4)	227 (1.6)	71 (3.4)	228 (0.9)
Ohio	39 (3.5)	213 (2.4)	61 (3.5)	220 (1.2)
Oklahoma	68 (3.5)	216 (1.0)	32 (3.5)	221 (1.9)
Pennsylvania	29 (2.6)	221 (2.5)	71 (2.6)	225 (1.5)
Rhode Island	33 (3.1)	200 (3.1)	67 (3.1)	218 (1.6)
South Carolina	36 (3.0)	210 (1.7)	64 (3.0)	212 (1.5)
Tennessee	36 (2.8)	207 (2.1)	64 (2.8)	211 (1.6)
Texas	56 (3.5)	215 (1.8)	44 (3.5)	219 (1.8)
Utah	42 (3.4)	220 (1.4)	58 (3.4)	225 (1.3)
Virginia	48 (3.1)	217 (2.0)	52 (3.1)	222 (1.8)
West Virginia	31 (3.3)	210 (2.1)	69 (3.3)	212 (1.2)
Wisconsin	38 (3.0)	226 (1.8)	62 (3.0)	229 (1.2)
Wyoming	33 (3.3)	224 (1.7)	67 (3.3)	225 (1.0)
TERRITORY				
Guam	71 (1.0)	190 (1.0)	29 (1.0)	194 (2.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 11.33 | Teachers' Reports on Their College Courses and In-Service Training in Mathematics - Teaching Students from Different Cultural Backgrounds (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	Trained in Teaching Students from Different Backgrounds		Not Trained in Teaching Students from Different Backgrounds	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	51 (2.4)	264 (1.8)	49 (2.4)	271 (1.2)
Northeast	46 (7.0)	260 (5.6)	54 (7.0)	272 (2.9)
Southeast	43 (3.1)	257 (3.0)	57 (3.1)	263 (1.5)
Central	55 (5.5)	273 (2.8)	45 (5.5)	277 (3.4)
West	58 (3.5)	262 (3.4)	42 (3.5)	273 (2.2)
STATES				
Alabama	42 (4.6)	247 (3.4)	58 (4.6)	255 (2.0)
Arizona	57 (3.4)	262 (2.1)	43 (3.4)	269 (1.8)
Arkansas	34 (3.7)	251 (1.9)	66 (3.7)	259 (1.7)
California	65 (3.2)	257 (2.1)	35 (3.2)	268 (2.6)
Colorado	55 (2.9)	270 (1.6)	45 (2.9)	274 (1.7)
Connecticut	44 (3.5)	269 (2.8)	56 (3.5)	276 (1.7)
Delaware	46 (0.9)	263 (1.3)	54 (0.9)	261 (1.6)
Dist. Columbia	56 (1.0)	233 (1.3)	44 (1.0)	235 (1.5)
Florida	66 (3.5)	258 (1.9)	34 (3.5)	262 (2.5)
Georgia	54 (3.1)	256 (2.0)	46 (3.1)	261 (1.8)
Hawaii	47 (0.8)	253 (1.2)	53 (0.8)	260 (1.3)
Idaho	42 (3.0)	271 (1.3)	58 (3.0)	276 (1.1)
Indiana	42 (4.2)	267 (1.9)	58 (4.2)	271 (1.5)
Iowa	51 (4.1)	282 (1.5)	49 (4.1)	284 (1.4)
Kentucky	35 (3.4)	262 (2.1)	65 (3.4)	262 (1.4)
Louisiana	43 (3.3)	244 (2.7)	57 (3.3)	254 (2.0)
Maine	11 (2.1)	280 (3.8)	89 (2.1)	278 (1.0)
Maryland	66 (3.3)	265 (2.2)	35 (3.3)	265 (2.5)
Massachusetts	33 (2.8)	265 (2.2)	67 (2.8)	276 (1.5)
Michigan	33 (2.6)	257 (2.8)	67 (2.6)	271 (2.0)
Minnesota	42 (3.4)	283 (1.6)	58 (3.4)	281 (1.4)
Mississippi	53 (3.4)	242 (1.9)	47 (3.4)	250 (2.1)
Missouri	32 (3.0)	269 (2.4)	68 (3.0)	272 (1.3)
Nebraska	59 (4.1)	276 (1.6)	41 (4.1)	279 (1.7)
New Hampshire	22 (3.3)	279 (1.5)	78 (3.3)	277 (1.2)
New Jersey	49 (3.9)	265 (2.8)	51 (3.9)	277 (2.3)
New Mexico	56 (3.7)	258 (1.3)	44 (3.7)	260 (1.5)
New York	33 (3.3)	255 (4.2)	67 (3.3)	271 (1.7)
North Carolina	39 (3.3)	260 (1.6)	61 (3.3)	256 (1.5)
North Dakota	36 (3.5)	282 (1.7)	64 (3.5)	283 (1.3)
Ohio	35 (4.0)	264 (2.5)	65 (4.0)	270 (1.8)
Oklahoma	74 (3.2)	268 (1.5)	26 (3.2)	267 (2.3)
Pennsylvania	28 (3.7)	266 (2.9)	72 (3.7)	272 (1.7)
Rhode Island	35 (0.8)	256 (1.4)	65 (0.8)	270 (0.9)
South Carolina	38 (3.4)	259 (2.2)	62 (3.4)	261 (1.6)
Tennessee	36 (3.1)	257 (2.5)	64 (3.1)	259 (1.4)
Texas	57 (3.2)	262 (1.7)	43 (3.2)	267 (2.1)
Utah	52 (2.5)	274 (1.2)	48 (2.5)	274 (1.2)
Virginia	49 (3.5)	266 (1.8)	51 (3.5)	268 (1.6)
West Virginia	34 (2.9)	258 (1.7)	66 (2.9)	259 (1.3)
Wisconsin	44 (4.3)	277 (2.5)	56 (4.3)	280 (1.6)
Wyoming	28 (2.7)	272 (2.3)	72 (2.7)	275 (0.9)
TERRITORIES				
Guam	53 (1.0)	234 (1.7)	47 (1.0)	235 (1.3)
Virgin Islands	38 (0.9)	221 (1.3)	62 (0.9)	221 (1.2)

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TABLE 11.34 Teachers' Reports on Degree of Preparation for Teaching Mathematics Concepts, Computers and Calculators, Grades 4 and 8

	Very Well Prepared		Moderately Well Prepared		Not Very Well Prepared		Not at all Prepared	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Mathematics Concepts and Procedures								
Grade 4	85 (1.7)	218 (1.0)	15 (1.7)	216 (2.0)	0 (0.0)	--	0 (0.0)	--
Grade 8	93 (1.1)	270 (1.1)	7 (0.9)	259 (3.7)	0 (0.3)	249(36.4)	0 (0.0)	--
Computers								
Grade 4	15 (1.6)	214 (2.5)	40 (2.1)	219 (1.5)	34 (2.1)	220 (1.8)	10 (1.2)	215 (2.3)
Grade 8	21 (1.9)	266 (2.1)	34 (2.8)	271 (2.0)	32 (2.1)	267 (2.2)	13 (1.7)	271 (2.8)
Calculators								
Grade 4	34 (2.2)	219 (1.8)	47 (2.5)	218 (1.4)	15 (1.6)	218 (2.1)	3 (0.7)	211 (3.9)
Grade 8	58 (3.2)	268 (1.5)	35 (2.7)	270 (1.9)	7 (1.4)	271 (2.5)	1 (0.5)	240 (6.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 11.35 | Teachers' Reports on Degree of Preparation for Teaching Mathematics Concepts

PUBLIC SCHOOLS	Grade 4 - 1992							
	Very Well Prepared		Moderately Prepared		Not Well Prepared		Not At All Prepared	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	86 (1.8)	217 (1.2)	14 (1.8)	215 (2.4)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Northeast	86 (2.9)	221 (2.9)	14 (2.9)	217 (6.0)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Southeast	90 (1.3)	208 (1.9)	10 (1.3)	207 (5.3)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Central	91 (4.5)	224 (2.3)	9 (4.5)	218 (4.7)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
West	77 (3.8)	218 (2.2)	23 (3.8)	217 (3.7)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
STATES								
Alabama	86 (2.3)	207 (1.5)	14 (2.3)	211 (4.7)	0 (0.0)	*** (***)	0 (0.1)	*** (***)
Arizona	75 (2.5)	214 (1.1)	23 (2.6)	214 (2.7)	1 (0.7)	*** (***)	0 (0.0)	*** (***)
Arkansas	86 (2.6)	209 (0.9)	14 (2.6)	212 (2.8)	0 (0.1)	*** (***)	0 (0.3)	*** (***)
California	81 (2.4)	210 (1.8)	17 (2.3)	199 (3.4)	2 (0.9)	*** (***)	0 (0.0)	*** (***)
Colorado	75 (2.5)	221 (1.4)	24 (2.4)	217 (2.1)	1 (0.6)	*** (***)	0 (0.0)	*** (***)
Connecticut	83 (2.3)	228 (1.5)	17 (2.3)	224 (2.9)	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Delaware	83 (0.7)	219 (0.8)	16 (0.7)	212 (1.8)	1 (0.1)	*** (***)	0 (0.0)	*** (***)
Dist. Columbia	83 (0.6)	192 (0.9)	16 (0.6)	185 (2.0)	0 (0.0)	*** (***)	1 (0.1)	*** (***)
Florida	89 (2.2)	213 (1.2)	11 (2.2)	213 (3.5)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
Georgia	86 (2.3)	214 (1.6)	14 (2.4)	213 (2.8)	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Hawaii	69 (2.6)	214 (1.5)	30 (2.6)	210 (2.3)	1 (0.5)	*** (***)	0 (0.0)	*** (***)
Idaho	76 (3.1)	220 (1.1)	24 (3.0)	221 (1.8)	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Indiana	84 (3.0)	220 (1.2)	16 (3.0)	218 (3.1)	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Iowa	88 (1.9)	229 (1.1)	12 (1.9)	228 (2.7)	1 (0.6)	*** (***)	0 (0.0)	*** (***)
Kentucky	75 (3.0)	214 (1.3)	25 (3.0)	213 (1.8)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Louisiana	86 (2.0)	203 (1.7)	12 (1.9)	199 (3.3)	1 (0.5)	*** (***)	0 (0.4)	*** (***)
Maine	79 (3.2)	230 (1.3)	21 (3.3)	231 (2.3)	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Maryland	84 (2.6)	220 (1.3)	15 (2.5)	211 (4.5)	1 (0.5)	*** (***)	0 (0.0)	*** (***)
Massachusetts	84 (2.4)	228 (1.2)	15 (2.4)	218 (3.5)	1 (0.4)	*** (***)	0 (0.0)	*** (***)
Michigan	82 (2.7)	218 (1.8)	18 (2.6)	222 (3.2)	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Minnesota	78 (3.1)	227 (1.5)	22 (3.1)	229 (2.0)	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Mississippi	88 (2.4)	199 (1.3)	12 (2.4)	205 (4.3)!	0 (0.4)	*** (***)	0 (0.0)	*** (***)
Missouri	86 (2.6)	222 (1.6)	14 (2.6)	221 (2.4)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Nebraska	82 (2.5)	225 (1.5)	18 (2.5)	224 (2.5)	1 (0.5)	*** (***)	0 (0.0)	*** (***)
New Hampshire	80 (2.8)	229 (1.2)	20 (2.8)	230 (2.4)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
New Jersey	91 (2.0)	229 (1.4)	9 (2.0)	210 (5.3)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
New Mexico	78 (2.9)	213 (1.4)	21 (2.9)	208 (2.3)	1 (0.4)	*** (***)	0 (0.0)	*** (***)
New York	83 (2.5)	218 (1.4)	16 (2.4)	213 (3.3)	1 (0.4)	*** (***)	0 (0.0)	*** (***)
North Carolina	78 (2.5)	213 (1.3)	21 (2.4)	211 (2.1)	1 (0.8)	*** (***)	0 (0.0)	*** (***)
North Dakota	80 (3.1)	228 (0.9)	19 (3.1)	229 (2.1)	0 (0.0)	*** (***)	0 (0.3)	*** (***)
Ohio	82 (2.8)	218 (1.4)	17 (2.8)	216 (2.5)	1 (0.6)	*** (***)	0 (0.0)	*** (***)
Oklahoma	84 (2.7)	219 (1.1)	16 (2.7)	221 (2.0)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Pennsylvania	88 (2.0)	224 (1.6)	12 (2.0)	219 (3.3)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Rhode Island	77 (3.5)	214 (2.0)	21 (3.2)	214 (2.8)	1 (0.6)	*** (***)	0 (0.0)	*** (***)
South Carolina	91 (1.5)	212 (1.2)	9 (1.4)	204 (3.1)	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Tennessee	86 (1.8)	210 (1.5)	13 (1.7)	206 (1.8)	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Texas	77 (2.9)	219 (1.5)	22 (2.9)	214 (3.2)	1 (0.5)	*** (***)	0 (0.0)	*** (***)
Utah	81 (2.0)	224 (1.0)	18 (1.9)	220 (2.9)	1 (0.5)	*** (***)	0 (0.0)	*** (***)
Virginia	88 (1.9)	219 (1.5)	11 (1.9)	220 (4.1)	0 (0.0)	*** (***)	0 (0.2)	*** (***)
West Virginia	83 (2.6)	214 (1.3)	17 (2.6)	211 (2.1)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Wisconsin	81 (2.4)	229 (1.3)	19 (2.4)	225 (3.1)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Wyoming	80 (2.5)	225 (1.1)	20 (2.5)	223 (1.8)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
TERRITORY								
Guam	72 (1.2)	193 (1.1)	26 (1.2)	189 (1.6)	2 (0.1)	*** (***)	0 (0.0)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.35 | Teachers' Reports on Degree of Preparation for Teaching Mathematics Concepts (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Very Well Prepared		Moderately Prepared		Not Well Prepared		Not At All Prepared	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	93 (1.2)	269 (1.1)	6 (1.1)	256 (4.3)	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Northeast	94 (2.4)	268 (3.4)	6 (2.4)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Southeast	97 (1.6)	262 (1.3)	3 (1.6)	255 (2.8)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Central	90 (3.6)	277 (2.7)	9 (2.8)	255 (6.8)!	2 (1.4)	*** (***)	0 (0.0)	*** (***)
West	93 (1.9)	268 (1.9)	7 (1.9)	257 (8.2)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
STATES								
Alabama	95 (1.6)	253 (1.8)	4 (1.5)	241 (7.4)!	1 (0.5)	*** (***)	0 (0.0)	*** (***)
Arizona	93 (1.3)	265 (1.4)	7 (1.3)	257 (4.4)	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Arkansas	94 (2.1)	256 (1.3)	6 (2.1)	250 (5.7)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
California	89 (1.8)	262 (1.7)	10 (1.8)	256 (4.6)	1 (0.6)	*** (***)	0 (0.0)	*** (***)
Colorado	92 (1.8)	272 (1.1)	7 (1.6)	264 (4.9)!	1 (0.5)	*** (***)	0 (0.1)	*** (***)
Connecticut	97 (1.4)	274 (1.1)	3 (1.4)	255 (8.9)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Delaware	87 (0.8)	264 (1.0)	11 (0.6)	249 (3.7)	1 (0.4)	*** (***)	1 (0.3)	*** (***)
Dist. Columbia	93 (0.6)	233 (1.0)	7 (0.6)	249 (5.9)	1 (0.2)	*** (***)	0 (0.0)	*** (***)
Florida	95 (1.3)	260 (1.3)	5 (1.2)	251 (7.2)!	1 (0.4)	*** (***)	0 (0.0)	*** (***)
Georgia	95 (1.2)	259 (1.4)	4 (1.1)	249 (4.8)!	1 (0.4)	*** (***)	0 (0.0)	*** (***)
Hawaii	83 (0.8)	258 (0.9)	16 (0.8)	254 (1.7)	1 (0.2)	*** (***)	0 (0.1)	*** (***)
Idaho	93 (1.5)	275 (0.8)	7 (1.5)	268 (3.4)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
Indiana	95 (1.5)	270 (1.3)	4 (1.4)	259 (5.6)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
Iowa	89 (2.6)	283 (1.1)	11 (2.5)	279 (3.3)!	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Kentucky	94 (1.5)	263 (1.2)	5 (1.2)	245 (4.9)!	1 (0.7)	*** (***)	0 (0.2)	*** (***)
Louisiana	94 (1.5)	250 (1.8)	6 (1.4)	243 (5.7)!	0 (0.3)	*** (***)	0 (0.0)	*** (***)
Maine	91 (2.1)	279 (1.2)	9 (2.1)	274 (4.8)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Maryland	97 (1.0)	266 (1.5)	3 (1.0)	244 (9.6)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Massachusetts	96 (1.0)	273 (1.2)	3 (0.9)	255 (6.0)!	1 (0.4)	*** (***)	0 (0.2)	*** (***)
Michigan	92 (2.1)	267 (1.5)	8 (2.0)	266 (4.9)!	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Minnesota	94 (1.5)	282 (1.0)	4 (1.2)	279 (7.0)!	2 (1.1)	*** (***)	0 (0.0)	*** (***)
Mississippi	97 (1.0)	246 (1.3)	3 (1.0)	230 (3.5)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
Missouri	93 (2.0)	272 (1.1)	7 (2.0)	261 (3.4)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Nebraska	94 (1.3)	277 (1.1)	6 (1.3)	279 (6.4)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
New Hampshire	92 (1.9)	278 (1.1)	7 (1.4)	268 (3.1)!	1 (1.2)	*** (***)	0 (0.0)	*** (***)
New Jersey	93 (1.8)	273 (1.7)	6 (1.8)	253 (6.0)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
New Mexico	90 (1.9)	260 (0.9)	9 (1.9)	251 (4.2)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
New York	95 (1.5)	267 (2.1)	5 (1.5)	245(11.7)!	0 (0.3)	*** (***)	0 (0.0)	*** (***)
North Carolina	91 (1.7)	258 (1.2)	8 (1.7)	246 (4.9)!	1 (0.4)	*** (***)	1 (0.5)	*** (***)
North Dakota	93 (1.8)	283 (1.3)	7 (1.8)	284 (3.1)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Ohio	95 (1.3)	270 (1.6)	5 (1.3)	267 (5.2)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Oklahoma	94 (1.8)	268 (1.3)	6 (1.8)	257 (7.3)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
Pennsylvania	95 (2.0)	272 (1.7)	5 (2.0)	255 (3.4)!	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Rhode Island	92 (0.9)	265 (0.7)	8 (0.7)	267 (2.3)	0 (0.0)	*** (***)	0 (0.4)	*** (***)
South Carolina	93 (1.5)	262 (1.2)	6 (1.4)	246 (2.9)!	1 (0.8)	*** (***)	0 (0.0)	*** (***)
Tennessee	91 (2.2)	258 (1.5)	8 (2.2)	260 (4.6)!	0 (0.3)	*** (***)	0 (0.1)	*** (***)
Texas	93 (1.7)	266 (1.5)	6 (1.7)	249 (4.7)!	0 (0.1)	*** (***)	0 (0.3)	*** (***)
Utah	92 (1.6)	275 (0.9)	7 (1.6)	265 (3.9)!	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Virginia	95 (1.1)	267 (1.2)	5 (1.1)	267 (4.6)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
West Virginia	95 (1.6)	259 (1.1)	5 (1.6)	250 (5.2)!	0 (0.1)	*** (***)	0 (0.0)	*** (***)
Wisconsin	92 (2.3)	279 (1.7)	8 (2.3)	271 (4.5)!	0 (0.2)	*** (***)	0 (0.0)	*** (***)
Wyoming	93 (0.9)	275 (0.8)	5 (0.8)	263 (4.0)	1 (0.4)	*** (***)	0 (0.0)	*** (***)
TERRITORIES								
Guam	90 (0.5)	237 (1.1)	5 (0.5)	225 (5.5)	4 (0.4)	*** (***)	0 (0.0)	*** (***)
Virgin Islands	94 (0.5)	221 (1.3)	6 (0.5)	226 (3.7)	0 (0.0)	*** (***)	0 (0.0)	*** (***)

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TABLE 11.36 | Teachers' Reports on Degree of Preparation for Teaching Computers

PUBLIC SCHOOLS	Grade 4 - 1992							
	Very Well Prepared		Moderately Prepared		Not Well Prepared		Not At All Prepared	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	15 (1.8)	213 (2.8)	42 (2.4)	218 (1.6)	34 (2.4)	218 (2.0)	9 (1.3)	212 (2.9)
Northeast	13 (3.8)	221 (8.9)!	35 (4.8)	222 (3.5)	37 (5.4)	223 (3.3)	15 (4.3)	212 (5.4)!
Southeast	18 (4.2)	199 (2.6)!	41 (4.9)	212 (2.2)	33 (5.2)	207 (4.2)	8 (2.4)	203 (7.2)!
Central	9 (3.4)	216 (3.3)!	51 (5.5)	224 (2.4)	34 (3.9)	225 (3.6)	6 (1.9)	*** (***)
West	18 (3.5)	222 (2.8)	38 (3.6)	214 (3.8)	33 (4.5)	219 (4.3)	10 (2.1)	212 (4.0)!
STATES								
Alabama	13 (2.2)	195 (2.8)	42 (3.7)	211 (2.4)	39 (3.4)	208 (2.3)	6 (1.7)	208 (4.2)!
Arizona	17 (2.1)	218 (2.6)	46 (2.9)	213 (1.7)	28 (2.4)	215 (2.1)	9 (1.6)	211 (3.7)
Arkansas	18 (3.0)	208 (2.6)	37 (3.6)	209 (1.6)	32 (2.8)	210 (1.9)	13 (2.4)	210 (3.1)
California	17 (2.7)	207 (3.5)	41 (3.8)	209 (2.5)	31 (3.1)	207 (3.0)	11 (2.1)	209 (3.3)
Colorado	17 (2.6)	223 (2.4)	49 (2.9)	220 (1.4)	30 (2.2)	219 (2.1)	5 (1.3)	213 (5.4)!
Connecticut	21 (3.0)	229 (3.0)	45 (3.1)	229 (2.0)	28 (3.3)	224 (2.1)	6 (1.8)	226 (6.0)!
Delaware	14 (0.7)	222 (2.6)	31 (1.0)	219 (1.5)	42 (1.3)	215 (1.4)	13 (0.8)	216 (1.6)
Dist. Columbia	14 (0.6)	185 (1.5)	44 (0.9)	193 (1.3)	33 (0.8)	192 (1.4)	9 (0.4)	189 (2.2)
Florida	23 (2.7)	217 (2.5)	45 (2.8)	212 (1.6)	27 (2.9)	211 (2.6)	5 (1.3)	207 (6.3)!
Georgia	18 (2.7)	212 (4.3)	42 (3.6)	213 (1.7)	33 (3.3)	214 (2.5)	7 (1.6)	220 (4.3)!
Hawaii	7 (1.5)	214 (4.1)!	35 (2.5)	212 (2.2)	46 (2.7)	214 (2.0)	12 (1.9)	210 (3.4)
Idaho	16 (2.3)	218 (2.3)	46 (3.5)	221 (1.4)	32 (3.3)	220 (1.8)	6 (1.4)	220 (2.9)!
Indiana	14 (2.4)	215 (2.2)	47 (3.5)	221 (1.7)	34 (3.2)	219 (2.1)	5 (1.3)	223 (4.5)!
Iowa	12 (2.2)	228 (4.0)	52 (3.0)	229 (1.5)	31 (3.0)	228 (1.5)	5 (1.5)	237 (3.1)!
Kentucky	10 (2.1)	218 (3.9)!	42 (2.9)	212 (1.5)	36 (3.0)	215 (1.8)	13 (2.3)	211 (2.8)
Louisiana	7 (1.8)	202 (4.8)!	33 (3.3)	205 (2.2)	36 (2.9)	201 (2.7)	24 (3.3)	201 (2.8)
Maine	9 (1.9)	232 (3.9)!	51 (3.5)	230 (1.4)	32 (3.1)	230 (2.0)	8 (1.9)	235 (3.9)!
Maryland	18 (2.0)	221 (2.9)	48 (3.2)	218 (2.0)	29 (2.9)	218 (2.4)	5 (1.9)	212(11.5)!
Massachusetts	19 (2.8)	229 (2.9)	42 (3.6)	226 (2.1)	28 (3.2)	225 (2.5)	10 (2.2)	228 (3.0)!
Michigan	20 (2.9)	215 (3.3)	43 (3.5)	218 (2.6)	30 (3.1)	221 (3.0)	8 (1.8)	224 (5.4)!
Minnesota	16 (2.4)	225 (2.7)	49 (3.4)	229 (1.5)	31 (3.8)	226 (2.4)	4 (1.4)	220 (6.4)!
Mississippi	12 (2.5)	193 (3.4)!	34 (3.0)	199 (2.2)	35 (3.5)	202 (2.2)	19 (2.9)	201 (3.4)
Missouri	14 (2.2)	227 (3.3)	47 (3.4)	223 (1.9)	30 (3.1)	220 (1.6)	9 (2.2)	215 (3.7)!
Nebraska	12 (1.7)	221 (3.5)	50 (3.5)	226 (1.8)	34 (3.1)	225 (2.1)	3 (1.1)	222 (6.9)!
New Hampshire	23 (2.9)	231 (2.0)	44 (3.6)	229 (1.6)	29 (2.7)	229 (2.0)	4 (1.1)	221 (3.3)!
New Jersey	8 (1.6)	234 (5.1)!	42 (3.9)	230 (2.4)	38 (3.8)	225 (2.2)	12 (2.5)	216 (4.5)!
New Mexico	13 (2.4)	212 (3.9)	46 (4.1)	215 (1.9)	33 (3.5)	210 (1.8)	7 (1.9)	207 (4.7)!
New York	8 (1.8)	220 (4.4)!	36 (2.8)	219 (2.0)	35 (2.9)	218 (2.1)	20 (2.7)	212 (2.9)
North Carolina	14 (2.1)	212 (2.5)	52 (3.2)	212 (1.4)	29 (2.9)	213 (2.2)	5 (1.7)	207 (6.0)!
North Dakota	17 (2.5)	225 (2.1)	41 (4.5)	228 (1.5)	33 (4.0)	228 (1.3)	9 (2.4)	230 (2.6)!
Ohio	15 (2.7)	224 (4.3)	39 (3.4)	217 (1.8)	35 (3.4)	217 (2.3)	11 (2.3)	211 (3.0)!
Oklahoma	11 (2.1)	222 (3.0)	44 (3.2)	219 (1.5)	36 (3.2)	219 (1.5)	9 (2.3)	219 (2.4)!
Pennsylvania	16 (2.8)	223 (4.2)	44 (3.8)	227 (2.2)	30 (3.4)	221 (2.2)	10 (2.0)	216 (4.0)
Rhode Island	12 (2.3)	212 (3.6)	40 (3.4)	216 (2.2)	32 (3.2)	214 (2.3)	16 (2.4)	214 (4.1)
South Carolina	15 (2.6)	206 (3.2)	40 (3.1)	210 (1.8)	34 (3.3)	214 (1.9)	11 (2.0)	216 (3.0)
Tennessee	14 (2.2)	202 (3.7)	49 (2.9)	211 (1.7)	30 (2.9)	212 (1.8)	6 (1.6)	212 (3.2)!
Texas	11 (1.7)	216 (3.6)	41 (3.5)	217 (2.3)	41 (3.5)	218 (2.0)	8 (1.4)	218 (5.2)
Utah	20 (2.5)	223 (2.1)	48 (3.5)	224 (1.2)	28 (3.0)	223 (2.1)	4 (1.1)	217 (4.4)!
Virginia	18 (2.6)	224 (3.2)	46 (2.9)	218 (1.7)	29 (2.6)	222 (2.5)	7 (1.8)	216 (4.9)!
West Virginia	18 (2.9)	215 (2.3)	38 (3.6)	214 (2.1)	38 (3.3)	213 (1.9)	6 (1.7)	206 (2.9)!
Wisconsin	17 (2.4)	228 (2.8)	48 (2.9)	228 (1.9)	28 (2.6)	228 (1.7)	7 (1.9)	229 (2.9)!
Wyoming	21 (2.5)	227 (1.6)	56 (3.7)	224 (1.4)	21 (3.2)	225 (2.2)	3 (0.9)	*** (***)
TERRITORY								
Guam	7 (0.8)	187 (3.1)	36 (1.3)	194 (1.7)	39 (1.0)	189 (1.5)	18 (0.9)	189 (2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.36 | Teachers' Reports on Degree of Preparation for Teaching Computers (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Very Well Prepared		Moderately Prepared		Not Well Prepared		Not At All Prepared	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (2.1)	266 (2.2)	33 (3.0)	271 (2.1)	32 (2.4)	265 (2.4)	12 (1.8)	271 (3.3)
Northeast	18 (3.9)	262 (6.6)!	42 (6.9)	268 (3.5)	32 (5.8)	269 (8.7)	8 (4.1)	280 (5.8)!
Southeast	21 (4.7)	257 (4.0)!	34 (5.4)	266 (3.2)	32 (2.8)	260 (2.1)	13 (4.7)	262 (4.3)!
Central	22 (4.1)	280 (3.0)!	28 (4.4)	278 (5.1)	36 (6.2)	270 (4.9)!	14 (3.5)	274 (4.4)!
West	27 (3.9)	265 (3.3)	32 (6.3)	272 (4.6)!	29 (4.2)	263 (2.9)	12 (2.6)	272 (8.2)!
STATES								
Alabama	18 (2.8)	250 (3.3)	44 (4.4)	253 (2.4)	32 (3.8)	252 (4.1)	6 (2.2)	250 (6.2)!
Arizona	25 (3.1)	262 (2.7)	36 (3.7)	267 (2.2)	30 (3.6)	263 (1.9)	9 (1.9)	265 (5.7)!
Arkansas	16 (2.2)	257 (3.8)	40 (3.9)	253 (1.8)	27 (3.5)	259 (2.3)	17 (3.7)	255 (3.5)!
California	20 (2.2)	254 (3.3)	33 (3.0)	259 (2.9)	26 (2.9)	268 (3.0)	21 (3.5)	262 (4.0)
Colorado	25 (2.6)	272 (2.0)	35 (3.0)	273 (1.9)	31 (3.1)	270 (1.8)	9 (1.8)	268 (3.0)!
Connecticut	21 (3.2)	277 (3.1)	40 (3.3)	275 (3.0)	33 (3.3)	271 (2.5)	6 (1.4)	267 (5.8)!
Delaware	18 (0.7)	261 (1.6)	32 (1.0)	258 (1.9)	40 (0.9)	267 (1.3)	10 (0.6)	260 (3.6)
Dist. Columbia	34 (1.1)	230 (2.1)	43 (1.2)	239 (1.4)	19 (1.0)	234 (3.0)	5 (0.2)	230 (6.5)
Florida	21 (2.2)	260 (2.9)	39 (3.3)	260 (2.4)	30 (3.3)	261 (2.0)	11 (2.0)	257 (3.5)
Georgia	21 (2.0)	255 (2.6)	40 (2.7)	260 (2.1)	31 (2.4)	260 (2.4)	9 (2.0)	250 (4.7)!
Hawaii	15 (0.7)	260 (2.2)	39 (0.9)	256 (1.3)	29 (0.8)	259 (1.6)	17 (0.7)	257 (1.6)
Idaho	24 (3.2)	273 (1.7)	32 (3.4)	273 (1.5)	34 (2.7)	278 (1.9)	9 (2.1)	273 (3.0)!
Indiana	23 (3.1)	273 (2.3)	39 (3.7)	271 (2.0)	31 (3.8)	267 (2.6)	7 (1.7)	265 (4.3)!
Iowa	14 (2.7)	283 (2.9)	40 (3.9)	284 (1.8)	38 (4.3)	282 (1.6)	8 (1.9)	282 (2.4)!
Kentucky	14 (2.8)	266 (4.3)!	36 (3.1)	264 (2.0)	31 (3.3)	261 (2.2)	19 (3.5)	259 (2.3)
Louisiana	22 (3.5)	247 (4.4)	24 (3.6)	251 (3.1)	41 (3.6)	250 (2.1)	13 (2.5)	250 (3.4)
Maine	25 (3.4)	280 (2.5)	30 (3.9)	279 (2.5)	30 (4.0)	277 (1.6)	15 (2.4)	275 (2.5)
Maryland	30 (4.0)	270 (3.5)	39 (3.6)	264 (2.7)	28 (3.3)	263 (2.9)	4 (1.7)	268 (9.1)!
Massachusetts	29 (3.9)	272 (3.0)	32 (3.9)	274 (2.4)	29 (2.9)	276 (2.3)	10 (1.9)	261 (5.6)
Michigan	24 (2.7)	269 (3.2)	33 (3.5)	267 (2.9)	28 (3.0)	265 (2.9)	15 (3.1)	264 (6.3)
Minnesota	28 (2.7)	280 (2.2)	39 (3.0)	282 (2.0)	28 (3.6)	280 (2.1)	5 (1.0)	288 (6.1)
Mississippi	17 (2.8)	246 (4.4)	35 (4.1)	244 (2.4)	35 (4.0)	247 (2.2)	13 (2.8)	246 (3.6)
Missouri	21 (2.9)	274 (2.3)	35 (4.2)	269 (1.9)	33 (3.8)	271 (1.9)	11 (2.4)	271 (2.5)
Nebraska	26 (3.3)	277 (2.3)	33 (4.1)	279 (2.1)	34 (3.8)	275 (1.9)	7 (1.8)	281 (4.6)!
New Hampshire	23 (3.2)	280 (2.5)	40 (3.2)	277 (1.4)	31 (3.0)	275 (1.6)	6 (1.7)	281 (3.6)
New Jersey	24 (3.8)	274 (3.1)	31 (3.5)	274 (4.0)	27 (3.9)	270 (4.6)	18 (3.0)	267 (3.5)
New Mexico	28 (3.4)	261 (2.1)	39 (2.8)	259 (1.7)	28 (3.2)	258 (1.6)	5 (1.5)	258 (4.0)
New York	23 (2.8)	263 (4.5)	37 (3.5)	264 (4.0)	29 (3.6)	272 (3.1)	11 (2.6)	262 (5.6)
North Carolina	23 (3.2)	258 (2.5)	39 (3.5)	258 (2.0)	30 (3.1)	258 (2.5)	8 (2.1)	253 (4.6)
North Dakota	17 (2.3)	283 (2.3)	40 (3.3)	282 (1.4)	33 (3.9)	283 (2.4)	10 (2.7)	285 (2.4)
Ohio	21 (3.9)	264 (4.5)	41 (4.7)	273 (2.8)	29 (3.5)	269 (2.5)	9 (2.2)	268 (2.8)
Oklahoma	19 (2.9)	270 (2.2)	36 (3.6)	267 (1.9)	33 (3.6)	268 (1.9)	13 (2.4)	264 (4.4)
Pennsylvania	27 (3.4)	273 (3.1)	31 (3.1)	270 (2.8)	30 (3.3)	268 (2.5)	12 (2.3)	272 (4.0)
Rhode Island	23 (0.9)	266 (1.4)	32 (1.0)	265 (1.2)	29 (0.9)	269 (1.2)	16 (0.8)	259 (2.8)
South Carolina	19 (2.3)	260 (2.8)	43 (3.5)	260 (2.0)	29 (3.1)	262 (2.3)	9 (1.7)	261 (3.8)
Tennessee	15 (2.9)	255 (2.2)!	34 (3.9)	257 (2.2)	36 (4.1)	260 (2.2)	15 (3.2)	259 (5.0)
Texas	24 (2.9)	266 (3.6)	35 (3.6)	266 (2.2)	28 (3.1)	260 (2.7)	13 (2.4)	265 (4.1)
Utah	21 (1.6)	274 (1.8)	40 (2.7)	272 (1.7)	32 (2.4)	277 (1.4)	7 (1.2)	273 (3.3)
Virginia	30 (2.6)	267 (2.4)	38 (2.8)	266 (2.1)	27 (2.8)	270 (2.3)	6 (1.6)	269 (5.8)
West Virginia	23 (3.1)	260 (2.5)	37 (4.0)	258 (1.7)	32 (3.2)	258 (2.1)	8 (2.2)	259 (2.3)
Wisconsin	25 (3.7)	281 (2.0)	42 (5.7)	279 (3.1)	24 (3.5)	277 (2.8)	9 (2.2)	273 (4.4)
Wyoming	32 (3.2)	274 (1.6)	38 (3.1)	274 (1.5)	28 (2.6)	276 (1.9)	2 (1.3)	*** (****)
TERRITORIES								
Guam	23 (1.1)	227 (2.5)	44 (1.1)	232 (1.7)	28 (0.8)	242 (2.7)	5 (0.4)	269 (4.5)
Virgin Islands	9 (0.6)	221 (2.6)	43 (1.0)	219 (1.8)	29 (1.0)	220 (2.4)	18 (1.0)	229 (3.0)

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TABLE 11.37 | Teachers' Reports on Degree of Preparation for Teaching Calculators

PUBLIC SCHOOLS	Grade 4 - 1992							
	Very Well Prepared		Moderately Prepared		Not Well Prepared		Not At All Prepared	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	36 (2.5)	218 (2.0)	47 (2.8)	216 (1.6)	15 (1.8)	217 (2.3)	3 (0.7)	207 (4.1)!
Northeast	38 (5.0)	223 (4.9)	39 (5.0)	218 (3.4)	21 (1.6)	222 (5.1)	2 (1.0)	*** (***)
Southeast	41 (3.8)	208 (3.2)	43 (3.7)	208 (3.7)	13 (2.5)	204 (4.3)	3 (1.7)	*** (***)
Central	35 (4.9)	226 (3.0)	51 (5.9)	223 (2.3)	11 (4.8)	223 (4.7)!	3 (1.4)	*** (***)
West	29 (5.5)	220 (4.8)	51 (6.2)	215 (2.7)	16 (3.6)	219 (3.8)!	4 (1.1)	207 (9.1)!
STATES								
Alabama	48 (3.3)	208 (1.9)	39 (3.1)	208 (2.7)	11 (1.8)	206 (2.7)	2 (1.5)	*** (***)
Arizona	28 (2.3)	215 (2.0)	51 (2.8)	215 (1.6)	16 (1.8)	213 (2.4)	5 (1.3)	204 (4.7)!
Arkansas	29 (3.3)	208 (2.1)	47 (3.7)	211 (1.3)	18 (2.5)	206 (2.0)	5 (1.4)	210 (4.2)!
California	40 (3.1)	209 (2.4)	48 (2.9)	208 (2.5)	11 (2.2)	205 (4.1)!	2 (0.7)	*** (***)
Colorado	29 (3.0)	222 (2.3)	55 (3.1)	219 (1.3)	12 (2.1)	217 (3.4)	3 (1.0)	222 (3.8)!
Connecticut	37 (3.0)	229 (1.9)	46 (3.3)	229 (2.0)	14 (2.4)	220 (3.4)	3 (1.3)	226 (4.7)!
Delaware	23 (0.7)	223 (2.0)	57 (1.2)	219 (1.0)	19 (1.0)	207 (2.1)	1 (0.3)	*** (***)
Dist. Columbia	62 (0.8)	191 (0.8)	30 (0.7)	193 (1.6)	8 (0.8)	185 (2.5)	0 (0.0)	*** (***)
Florida	48 (3.3)	212 (1.7)	39 (2.8)	213 (2.1)	11 (2.0)	212 (3.3)	2 (0.8)	*** (***)
Georgia	40 (3.2)	212 (2.5)	42 (3.3)	217 (1.7)	14 (2.1)	212 (3.5)	3 (1.2)	210 (6.9)!
Hawaii	18 (2.3)	215 (2.6)	63 (2.8)	213 (1.5)	18 (2.1)	209 (3.1)	1 (0.5)	*** (***)
Idaho	31 (3.2)	220 (1.8)	55 (3.6)	221 (1.3)	13 (2.5)	217 (2.5)	1 (0.7)	*** (***)
Indiana	27 (3.1)	221 (1.7)	54 (3.7)	220 (1.4)	17 (2.7)	216 (3.0)	3 (0.9)	208 (5.0)!
Iowa	30 (3.3)	228 (2.1)	53 (3.4)	230 (1.4)	15 (2.7)	227 (2.1)	2 (1.1)	*** (***)
Kentucky	40 (3.4)	213 (1.5)	46 (3.8)	214 (1.7)	11 (2.3)	214 (2.9)!	2 (1.0)	201 (6.2)!
Louisiana	33 (3.2)	199 (2.5)	43 (3.6)	206 (2.4)	17 (2.0)	206 (3.6)	7 (2.1)	191 (7.9)!
Maine	29 (3.3)	229 (2.1)	55 (3.7)	231 (1.2)	14 (2.8)	231 (2.5)!	2 (1.0)	*** (***)
Maryland	40 (3.3)	219 (1.7)	47 (2.9)	217 (2.0)	11 (1.9)	221 (4.5)	2 (0.9)	*** (***)
Massachusetts	37 (4.1)	228 (2.3)	44 (3.8)	227 (2.2)	15 (2.4)	224 (2.7)	3 (1.1)	215 (6.7)!
Michigan	43 (3.4)	216 (2.4)	48 (3.3)	221 (2.4)	8 (2.1)	223 (2.8)!	0 (0.2)	*** (***)
Minnesota	30 (3.3)	227 (2.5)	52 (3.3)	227 (1.5)	17 (2.8)	226 (2.6)	2 (0.8)	*** (***)
Mississippi	42 (3.5)	195 (2.0)	46 (3.5)	205 (1.9)	9 (2.0)	200 (2.6)!	2 (1.2)	*** (***)
Missouri	33 (3.6)	222 (2.5)	49 (3.4)	223 (1.6)	15 (2.6)	219 (2.9)	3 (1.2)	216 (5.9)!
Nebraska	27 (4.2)	224 (2.5)	50 (4.1)	226 (2.0)	20 (3.0)	225 (2.1)	3 (1.3)	212 (3.9)!
New Hampshire	27 (3.3)	229 (2.2)	51 (3.5)	231 (1.7)	19 (2.8)	227 (1.9)	3 (1.1)	221 (4.2)!
New Jersey	33 (3.2)	230 (2.7)	50 (4.0)	227 (1.8)	14 (2.6)	225 (4.2)	3 (0.8)	212 (4.0)!
New Mexico	27 (3.4)	214 (1.6)	46 (3.9)	211 (1.9)	21 (2.9)	211 (2.5)	6 (1.7)	222 (4.2)!
New York	24 (2.8)	218 (2.8)	46 (2.8)	218 (1.8)	21 (2.2)	216 (2.2)	8 (1.7)	216 (4.4)!
North Carolina	36 (2.9)	213 (2.1)	48 (3.2)	212 (1.3)	15 (2.1)	212 (2.7)	1 (0.6)	*** (***)
North Dakota	27 (3.2)	227 (1.6)	50 (4.2)	227 (1.2)	19 (3.1)	230 (2.2)	4 (2.1)	227 (1.9)!
Ohio	31 (3.3)	221 (2.4)	50 (3.1)	215 (1.5)	15 (3.0)	221 (3.7)	4 (1.3)	212 (3.1)!
Oklahoma	26 (3.1)	220 (2.4)	51 (3.4)	220 (1.4)	19 (2.8)	218 (1.7)	4 (1.2)	220 (3.4)!
Pennsylvania	35 (3.2)	225 (2.5)	48 (3.2)	222 (1.8)	13 (2.4)	223 (3.2)	5 (1.2)	220 (4.7)!
Rhode Island	23 (3.2)	219 (3.0)	55 (3.3)	215 (1.9)	16 (2.2)	211 (3.7)	7 (1.7)	206 (5.8)!
South Carolina	38 (2.9)	211 (1.7)	49 (3.1)	212 (1.6)	11 (1.7)	210 (2.9)	2 (0.7)	*** (***)
Tennessee	33 (3.0)	211 (2.0)	45 (3.3)	209 (1.9)	16 (2.4)	211 (2.0)	5 (1.2)	207 (4.0)
Texas	32 (3.5)	216 (2.2)	50 (3.5)	217 (1.8)	16 (3.4)	222 (3.8)!	3 (1.0)	208 (7.0)!
Utah	30 (3.2)	223 (1.9)	52 (3.6)	223 (1.3)	13 (2.5)	222 (3.3)	4 (1.3)	223 (4.0)!
Virginia	39 (2.8)	222 (2.2)	44 (3.0)	218 (2.2)	16 (1.9)	219 (3.0)	2 (0.8)	*** (***)
West Virginia	40 (3.5)	211 (1.7)	45 (3.6)	215 (1.5)	14 (2.4)	213 (3.1)	0 (0.3)	*** (***)
Wisconsin	34 (3.2)	230 (2.1)	52 (3.2)	227 (1.3)	13 (2.2)	229 (2.9)	1 (0.6)	*** (***)
Wyoming	32 (3.0)	226 (1.4)	57 (3.3)	224 (1.2)	11 (1.7)	221 (2.6)	0 (0.0)	*** (***)
TERRITORY								
Guam	31 (1.0)	192 (1.8)	45 (1.3)	191 (1.5)	23 (1.0)	190 (1.7)	1 (0.2)	*** (***)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 11.37 | Teachers' Reports on Degree of Preparation for Teaching Calculators (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Very Well Prepared		Moderately Prepared		Not Well Prepared		Not At All Prepared	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	60 (3.5)	267 (1.6)	34 (2.9)	269 (2.0)	6 (1.5)	270 (3.1)!	1 (0.5)	*** (***)
Northeast	63 (6.7)	266 (4.5)	32 (6.0)	272 (4.4)	5 (3.3)	*** (***)	0 (0.0)	*** (***)
Southeast	55 (6.6)	260 (2.1)	35 (5.8)	264 (2.7)	7 (3.5)	264 (5.0)!	3 (2.0)	*** (***)
Central	60 (7.1)	276 (2.6)	34 (5.9)	273 (4.6)	5 (2.4)	*** (***)	1 (0.7)	*** (***)
West	62 (6.9)	266 (2.4)	33 (5.5)	269 (5.2)	5 (2.5)	277 (5.7)!	0 (0.1)	*** (***)
STATES								
Alabama	54 (4.2)	255 (1.9)	41 (4.2)	248 (3.3)	4 (1.4)	244 (5.7)!	1 (1.0)	*** (***)
Arizona	56 (3.7)	267 (1.9)	37 (3.6)	262 (1.9)	6 (1.5)	256 (5.2)!	1 (0.4)	*** (***)
Arkansas	49 (3.7)	257 (1.6)	44 (3.8)	256 (1.8)	7 (2.1)	246 (4.8)!	0 (0.3)	*** (***)
California	54 (3.3)	259 (2.2)	42 (3.3)	263 (2.3)	4 (1.1)	256 (5.0)!	0 (0.4)	*** (***)
Colorado	56 (3.4)	272 (1.5)	36 (3.0)	271 (1.7)	7 (1.7)	275 (2.8)!	2 (0.8)	*** (***)
Connecticut	68 (3.0)	274 (1.7)	30 (2.9)	273 (2.9)	1 (0.5)	*** (***)	1 (0.8)	*** (***)
Delaware	46 (0.9)	263 (1.4)	49 (0.9)	261 (1.2)	4 (0.4)	*** (***)	2 (0.3)	*** (***)
Dist. Columbia	83 (1.0)	233 (1.0)	14 (0.9)	244 (4.3)	2 (0.4)	*** (***)	0 (0.0)	*** (***)
Florida	64 (3.2)	260 (1.5)	28 (3.1)	259 (3.2)	7 (1.8)	258 (5.2)!	0 (0.2)	*** (***)
Georgia	65 (3.3)	258 (1.7)	32 (3.3)	259 (2.4)	4 (1.3)	267 (8.3)!	0 (0.1)	*** (***)
Hawaii	37 (1.0)	253 (1.3)	49 (1.0)	261 (1.0)	12 (0.5)	258 (2.0)	2 (0.3)	*** (***)
Idaho	57 (3.6)	275 (1.3)	40 (3.4)	275 (1.4)	3 (1.0)	267 (3.0)!	0 (0.0)	*** (***)
Indiana	55 (4.2)	271 (1.5)	39 (3.8)	268 (2.3)	5 (2.1)	270 (5.4)!	0 (0.1)	*** (***)
Iowa	55 (4.4)	284 (1.3)	39 (4.3)	280 (1.6)	5 (2.1)	292 (5.2)!	1 (0.6)	*** (***)
Kentucky	58 (4.2)	265 (1.5)	34 (3.8)	261 (2.7)	7 (2.3)	250 (2.9)!	1 (0.8)	*** (***)
Louisiana	47 (3.5)	248 (2.4)	45 (3.7)	251 (2.3)	6 (1.8)	258 (5.6)!	2 (0.9)	*** (***)
Maine	63 (4.7)	278 (1.5)	34 (4.5)	277 (2.2)	3 (1.2)	282 (4.5)!	0 (0.2)	*** (***)
Maryland	60 (3.7)	269 (2.2)	36 (3.6)	263 (2.5)	4 (1.6)	244(11.1)!	1 (0.4)	*** (***)
Massachusetts	56 (3.7)	275 (1.9)	33 (3.7)	272 (2.7)	11 (2.1)	265 (7.0)!	1 (0.7)	*** (***)
Michigan	66 (3.5)	265 (2.1)	32 (3.3)	269 (2.6)	3 (0.9)	274 (5.3)!	0 (0.0)	*** (***)
Minnesota	60 (3.7)	281 (1.2)	36 (3.6)	283 (2.0)	4 (1.4)	283 (4.6)!	0 (0.0)	*** (***)
Mississippi	51 (4.4)	248 (2.4)	39 (4.2)	244 (2.1)	9 (2.1)	244 (3.6)!	1 (0.4)	*** (***)
Missouri	61 (3.8)	271 (1.2)	33 (3.5)	272 (1.9)	6 (1.9)	266 (4.9)!	0 (0.4)	*** (***)
Nebraska	54 (4.2)	275 (1.6)	40 (3.8)	279 (1.6)	5 (1.3)	284 (6.9)!	0 (0.1)	*** (***)
New Hampshire	60 (2.3)	278 (1.4)	36 (2.5)	277 (1.6)	5 (1.6)	271 (2.8)!	0 (0.0)	*** (***)
New Jersey	62 (3.7)	277 (1.9)	33 (3.5)	264 (3.4)	4 (1.9)	256(11.2)!	1 (0.6)	*** (***)
New Mexico	59 (3.8)	261 (1.1)	36 (3.5)	259 (1.3)	4 (1.1)	251 (4.5)!	0 (0.2)	*** (***)
New York	51 (3.4)	264 (2.6)	40 (3.6)	265 (4.1)	9 (2.2)	279 (4.0)!	1 (0.5)	*** (***)
North Carolina	51 (3.7)	258 (1.8)	41 (3.7)	259 (1.8)	7 (2.0)	248 (4.1)!	1 (0.7)	*** (***)
North Dakota	44 (3.7)	283 (1.3)	49 (3.8)	282 (1.9)	4 (2.2)	289 (5.6)!	3 (1.1)	282 (2.3)!
Ohio	46 (4.6)	267 (2.3)	43 (5.3)	270 (2.4)	10 (4.8)	278 (6.4)!	0 (0.0)	*** (***)
Oklahoma	48 (4.0)	267 (1.6)	41 (3.8)	267 (1.7)	9 (2.5)	268 (3.7)!	2 (1.0)	*** (***)
Pennsylvania	52 (4.1)	271 (2.1)	42 (3.9)	271 (2.7)	5 (1.5)	263 (3.9)!	1 (0.5)	*** (***)
Rhode Island	54 (0.9)	266 (1.0)	39 (1.1)	263 (1.2)	5 (0.4)	259 (3.9)	2 (0.5)	*** (***)
South Carolina	51 (3.2)	261 (2.0)	41 (3.2)	261 (2.3)	7 (1.8)	254 (4.8)!	0 (0.4)	*** (***)
Tennessee	40 (3.6)	258 (2.1)	44 (3.7)	259 (2.2)	13 (2.8)	255 (3.6)!	3 (1.4)	250 (5.0)!
Texas	63 (3.2)	266 (1.7)	33 (3.1)	262 (2.7)	3 (0.9)	261 (6.0)!	0 (0.4)	*** (***)
Utah	58 (2.8)	274 (1.1)	37 (2.5)	273 (1.6)	5 (1.0)	276 (5.2)!	0 (0.2)	*** (***)
Virginia	60 (3.3)	267 (1.5)	32 (3.4)	268 (2.1)	8 (1.5)	270 (3.8)!	0 (0.3)	*** (***)
West Virginia	64 (3.7)	257 (1.4)	30 (3.7)	261 (2.0)	6 (1.2)	263 (4.6)!	1 (0.5)	*** (***)
Wisconsin	57 (5.0)	279 (2.2)	37 (4.8)	278 (2.5)	6 (1.8)	271 (4.8)!	0 (0.0)	*** (***)
Wyoming	66 (2.6)	275 (1.2)	31 (2.5)	273 (1.3)	3 (0.6)	275 (6.7)	0 (0.0)	*** (***)
TERRITORIES								
Guam	69 (1.4)	237 (1.3)	31 (1.4)	231 (2.0)	0 (0.0)	*** (***)	0 (0.0)	*** (***)
Virgin Islands	66 (1.0)	216 (1.6)	34 (1.0)	232 (1.6)	0 (0.1)	*** (***)	0 (0.0)	*** (***)

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CHAPTER TWELVE

Student Motivation on NAEP's 1992 Assessment for the Nation and the States

Overview

To try to gauge students' motivation, the 1992 assessment added a section of follow-up questions which asked the students for a frank appraisal of how much effort they put into the test and how important it was for them to do well. In addition, the follow-up questions seek to determine students' perception of the difficulty of the assessment and confidence in their own performance. These questions ask students how the test compared to their normal school tests and how many questions they think they answered correctly. Data about students' familiarity with the item types included can be used both to provide information about their classroom instruction and as contextual background for interpreting the results on performance tasks.

TABLE 12.1 Students' Reports on Number of Questions They Thought They Answered Correctly on the NAEP Mathematics Test, Grades 4, 8, and 12

	Almost All		More than Half		About Half		Less Than Half	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4								
Nation	44 (0.9)	225 (1.0)	33 (0.7)	221 (1.1)	18 (0.6)	207 (1.2)	6 (0.3)	197 (2.4)
White	45 (1.1)	233 (1.1)	34 (0.9)	227 (1.1)	16 (0.7)	215 (1.4)	5 (0.4)	208 (3.0)
Black	43 (1.8)	196 (2.0)	27 (1.6)	194 (1.8)	22 (1.2)	188 (2.4))	9 (0.7)	177 (4.1)
Hispanic	38 (1.5)	205 (1.9)	32 (1.5)	205 (2.6)	22 (1.2)	194 (1.7))	7 (0.9)	183 (3.6)
Asian/Pacific Islander	40 (3.0)	237 (3.3)	34 (3.5)	238 (4.5)	20 (3.0)	218 (4.1)	7 (1.6)	205 (8.7)
American Indian	36 (5.4)	212 (5.0)	37 (3.6)	212 (6.0)	21 (4.1)	200 (5.0)	6 (2.8)	201 (9.0)
Male	48 (1.0)	227 (1.1)	33 (1.0)	219 (1.2)	14 (0.7)	205 (1.6)	5 (0.5)	201 (4.5)
Female	40 (1.1)	222 (1.3)	33 (1.0)	222 (1.5)	21 (0.8)	208 (1.4)	6 (0.5)	194 (2.3)
Grade 8								
Nation	23 (0.6)	291 (1.5)	41 (0.7)	273 (0.8)	26 (0.7)	250 (0.8)	9 (0.5)	238 (1.2)
White	27 (0.8)	297 (1.3)	43 (0.8)	280 (1.0)	22 (0.7)	260 (1.0)	8 (0.6)	245 (1.6)
Black	13 (1.0)	246 (3.5)	37 (2.0)	246 (2.0)	39 (2.1)	230 (1.5)	11 (1.4)	223 (3.8)
Hispanic	14 (1.3)	264 (3.7)	38 (1.6)	257 (1.7)	34 (1.7)	236 (1.7)	14 (1.3)	224 (3.1)
Asian/Pacific Islander	33 (4.0)	315 (5.2)	43 (3.2)	286 (4.2)	17 (2.2)	259 (5.5)	7 (2.8)	243 (6.1)
American Indian	19 (3.8)	271 (6.5)	26 (4.8)	262 (6.0)	38 (5.6)	245 (3.6)	18 (4.3)	247 (4.7)
Male	29 (1.1)	289 (1.6)	43 (0.9)	270 (1.1)	20 (0.9)	246 (1.4)	8 (0.6)	236 (2.2)
Female	18 (0.8)	295 (1.8)	40 (1.0)	277 (1.1)	32 (0.9)	252 (1.1)	10 (0.7)	240 (1.9)
Grade 12								
Nation	18 (0.7)	332 (1.2)	33 (0.6)	310 (0.9)	29 (0.7)	287 (1.1)	20 (0.8)	270 (0.8)
White	20 (0.8)	335 (1.0)	35 (0.8)	314 (0.9)	27 (0.8)	292 (1.2)	19 (0.9)	275 (1.0)
Black	9 (0.9)	300 (4.7)	31 (1.7)	289 (2.3)	37 (1.7)	268 (1.9)	24 (2.1)	258 (1.7)
Hispanic	10 (1.5)	312 (5.5)	24 (2.1)	302 (2.7)	37 (2.1)	280 (2.2)	30 (1.8)	263 (2.3)
Asian/Pacific Islander	26 (3.9)	341 (3.4)	33 (3.2)	322 (3.9)	30 (5.0)	298 (3.4)	11 (2.2)	280 (5.9)
American Indian	9 (3.4)	316 (7.8)	23 (7.7)	308 (6.5)	38 (6.5)	280(10.7)	30 (9.1)	254(11.3)
Male	23 (0.9)	331 (1.4)	35 (1.0)	308 (1.1)	25 (0.8)	285 (1.3)	17 (0.9)	269 (1.3)
Female	12 (0.7)	334 (1.6)	31 (0.9)	312 (1.2)	34 (1.0)	288 (1.3)	23 (1.1)	271 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 12.2 | Students' Reports on Number of Questions They Thought They Answered Correctly on the NAEP Mathematics Test

PUBLIC SCHOOLS	Grade 4 - 1992							
	Almost All		More than Half		About Half		Less than Half	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	44 (1.0)	223 (1.1)	32 (0.8)	220 (1.2)	18 (0.6)	206 (1.3)	6 (0.4)	196 (2.7)
Northeast	47 (1.6)	230 (2.3)	32 (1.1)	223 (3.7)	15 (1.8)	211 (2.5)	5 (0.6)	*** (***)
Southeast	45 (1.8)	215 (2.3)	29 (1.8)	211 (1.9)	20 (1.1)	198 (2.5)	6 (0.9)	190 (3.0)
Central	44 (2.6)	227 (2.7)	33 (2.2)	224 (2.1)	18 (1.1)	212 (3.4)	5 (0.6)	202 (4.7)
West	41 (1.4)	222 (2.1)	35 (1.1)	220 (2.1)	17 (1.0)	206 (1.5)	7 (0.7)	200 (4.8)
STATES								
Alabama	42 (1.1)	212 (2.0)	33 (1.1)	210 (2.0)	20 (0.8)	198 (2.0)	5 (0.5)	186 (3.0)
Arizona	41 (1.2)	220 (1.3)	35 (0.9)	216 (1.5)	18 (0.8)	202 (1.5)	6 (0.4)	194 (2.5)
Arkansas	38 (0.9)	213 (1.3)	35 (1.0)	212 (1.2)	20 (0.9)	202 (1.8)	7 (0.6)	191 (2.8)
California	39 (1.2)	215 (2.1)	35 (1.0)	209 (1.7)	19 (0.8)	196 (2.0)	6 (0.5)	183 (3.1)
Colorado	41 (1.2)	227 (1.2)	35 (1.0)	220 (1.4)	20 (0.8)	209 (1.7)	5 (0.5)	200 (3.0)
Connecticut	46 (1.1)	233 (1.5)	33 (1.0)	227 (1.3)	17 (0.6)	212 (1.5)	5 (0.4)	200 (2.4)
Delaware	45 (1.2)	223 (1.4)	30 (1.4)	219 (1.4)	20 (1.0)	205 (2.2)	6 (0.7)	195 (2.8)
Dist. Columbia	49 (1.0)	195 (0.9)	27 (0.8)	193 (1.4)	19 (0.8)	184 (1.5)	5 (0.4)	176 (2.6)
Florida	45 (1.0)	218 (2.0)	33 (1.0)	215 (1.6)	18 (0.8)	201 (2.0)	5 (0.4)	193 (2.9)
Georgia	47 (1.4)	219 (1.8)	31 (0.9)	218 (1.4)	18 (1.0)	202 (1.5)	5 (0.4)	197 (2.8)
Hawaii	39 (0.8)	217 (1.7)	35 (0.9)	216 (1.7)	20 (0.8)	205 (1.6)	6 (0.5)	196 (2.8)
Idaho	38 (1.0)	226 (1.1)	37 (1.0)	223 (1.3)	20 (0.8)	211 (1.5)	6 (0.4)	199 (2.8)
Indiana	41 (1.0)	226 (1.4)	35 (0.9)	222 (1.2)	18 (0.8)	209 (1.4)	6 (0.5)	200 (2.5)
Iowa	39 (1.1)	236 (1.4)	39 (1.0)	231 (1.1)	18 (0.9)	217 (1.2)	5 (0.4)	202 (3.5)
Kentucky	39 (1.1)	221 (1.6)	34 (0.9)	215 (1.5)	21 (0.8)	205 (1.6)	7 (0.4)	194 (1.6)
Louisiana	47 (1.2)	207 (1.6)	28 (0.9)	207 (1.6)	19 (0.9)	193 (1.9)	6 (0.5)	190 (2.9)
Maine	38 (1.3)	238 (1.4)	38 (1.2)	233 (1.5)	19 (0.9)	219 (1.3)	5 (0.5)	213 (3.4)
Maryland	45 (1.0)	224 (1.7)	32 (0.7)	217 (1.8)	19 (0.8)	202 (1.7)	5 (0.4)	191 (3.8)
Massachusetts	41 (1.1)	234 (1.5)	34 (1.1)	227 (1.2)	20 (0.8)	211 (1.6)	5 (0.6)	204 (3.7)
Michigan	44 (1.0)	226 (2.0)	35 (0.9)	220 (1.6)	15 (0.8)	209 (2.0)	6 (0.6)	197 (3.5)
Minnesota	42 (1.1)	235 (1.4)	36 (1.0)	229 (1.1)	16 (0.8)	215 (1.8)	6 (0.5)	203 (2.6)
Mississippi	44 (1.1)	202 (1.5)	28 (0.8)	205 (1.6)	21 (0.7)	193 (1.6)	7 (0.4)	188 (2.2)
Missouri	41 (1.0)	227 (1.7)	36 (0.9)	224 (1.4)	19 (0.8)	209 (1.8)	5 (0.4)	199 (3.2)
Nebraska	40 (1.2)	232 (1.5)	36 (1.0)	226 (1.4)	19 (0.9)	212 (2.1)	5 (0.5)	199 (3.8)
New Hampshire	43 (1.1)	236 (1.4)	33 (1.1)	230 (1.4)	19 (1.1)	217 (1.2)	5 (0.5)	201 (3.4)
New Jersey	45 (1.1)	233 (1.9)	33 (1.0)	224 (1.8)	17 (0.8)	216 (1.6)	5 (0.4)	207 (3.7)
New Mexico	41 (1.2)	217 (1.6)	33 (1.4)	213 (1.9)	20 (0.9)	205 (1.8)	7 (0.8)	193 (2.7)
New York	42 (1.4)	224 (1.5)	33 (1.4)	220 (1.5)	20 (0.9)	206 (1.6)	5 (0.6)	196 (3.3)
North Carolina	43 (1.2)	217 (1.6)	32 (1.1)	214 (1.6)	19 (0.7)	202 (1.5)	5 (0.5)	191 (2.8)
North Dakota	38 (1.2)	233 (1.2)	37 (1.1)	230 (1.2)	20 (1.1)	219 (1.3)	5 (0.5)	207 (2.8)
Ohio	44 (1.1)	224 (1.7)	33 (1.1)	219 (1.2)	17 (0.9)	206 (1.5)	6 (0.5)	193 (2.2)
Oklahoma	43 (1.1)	223 (1.5)	33 (1.1)	222 (1.1)	19 (0.8)	209 (1.5)	5 (0.6)	202 (2.4)
Pennsylvania	42 (1.0)	230 (1.9)	36 (1.0)	225 (1.5)	18 (0.6)	211 (1.5)	4 (0.5)	196 (3.4)
Rhode Island	41 (1.1)	220 (2.0)	32 (1.2)	218 (1.4)	20 (0.9)	202 (1.8)	7 (0.5)	198 (3.7)
South Carolina	48 (1.1)	215 (1.4)	29 (1.2)	214 (1.5)	18 (0.8)	202 (1.4)	5 (0.4)	190 (2.6)
Tennessee	42 (1.2)	213 (1.8)	30 (1.0)	215 (1.7)	22 (1.1)	200 (1.4)	5 (0.4)	191 (2.6)
Texas	42 (1.1)	224 (1.6)	32 (0.8)	220 (1.4)	19 (0.8)	205 (1.5)	6 (0.6)	193 (2.8)
Utah	42 (1.1)	230 (1.3)	33 (0.9)	225 (1.1)	20 (0.7)	211 (1.6)	5 (0.4)	201 (3.1)
Virginia	46 (1.2)	227 (1.7)	32 (1.2)	221 (1.5)	18 (0.8)	206 (1.5)	5 (0.5)	198 (3.3)
West Virginia	35 (1.1)	220 (1.6)	35 (1.1)	217 (1.4)	24 (0.8)	206 (1.3)	6 (0.5)	196 (2.5)
Wisconsin	39 (1.0)	236 (1.4)	38 (0.9)	229 (1.3)	18 (0.8)	214 (1.6)	5 (0.5)	204 (1.9)
Wyoming	42 (1.0)	229 (1.3)	36 (1.0)	227 (1.2)	16 (0.8)	216 (1.5)	7 (0.5)	204 (2.8)
TERRITORY								
Guam	29 (1.0)	195 (1.6)	28 (1.0)	194 (1.8)	32 (1.2)	189 (1.4)	11 (0.5)	180 (2.8)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 12.2 | Students' Reports on Number of Questions They Thought They Answered Correctly on the NAEP Mathematics Test (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Almost All		More than Half		About Half		Less than Half	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (0.7)	290 (1.5)	41 (0.8)	272 (0.9)	27 (0.7)	249 (0.9)	10 (0.6)	237 (1.3)
Northeast	23 (1.6)	293 (3.8)	42 (1.3)	274 (2.9)	26 (1.7)	245 (2.6)	9 (1.1)	235 (2.9)
Southeast	20 (0.8)	281 (2.6)	39 (1.8)	263 (1.4)	31 (1.2)	245 (1.9)	10 (1.1)	234 (2.7)
Central	25 (1.4)	292 (2.9)	43 (1.6)	277 (1.7)	25 (1.6)	256 (1.9)	6 (0.9)	244 (3.6)
West	24 (1.5)	291 (2.9)	40 (1.3)	273 (1.9)	24 (1.1)	248 (1.7)	12 (1.2)	237 (2.1)
STATES								
Alabama	19 (0.9)	272 (2.7)	42 (1.1)	256 (1.8)	30 (1.3)	238 (1.7)	9 (0.5)	230 (2.4)
Arizona	20 (1.2)	289 (1.7)	44 (1.0)	269 (1.1)	27 (1.1)	249 (1.2)	10 (0.8)	238 (2.0)
Arkansas	18 (0.7)	276 (1.7)	41 (1.2)	261 (1.5)	31 (1.1)	243 (1.4)	10 (0.6)	236 (2.4)
California	20 (0.8)	288 (2.4)	41 (1.0)	268 (1.7)	29 (1.0)	242 (1.5)	10 (0.8)	231 (2.7)
Colorado	25 (1.1)	294 (1.5)	42 (1.0)	276 (1.0)	25 (1.0)	253 (1.6)	8 (0.6)	241 (1.9)
Connecticut	26 (1.0)	297 (1.7)	42 (0.8)	277 (1.2)	24 (0.9)	253 (1.7)	7 (0.5)	237 (3.2)
Delaware	20 (0.9)	289 (1.7)	43 (1.3)	268 (1.1)	29 (1.0)	244 (1.3)	8 (0.6)	232 (4.0)
Dist. Columbia	21 (1.0)	249 (2.8)	40 (1.1)	239 (1.3)	32 (1.2)	222 (1.5)	7 (0.7)	217 (4.2)
Florida	22 (1.1)	285 (2.2)	39 (1.2)	264 (1.4)	30 (1.3)	242 (1.5)	9 (0.8)	232 (2.3)
Georgia	22 (1.1)	276 (2.3)	43 (1.1)	261 (1.3)	28 (1.2)	246 (1.3)	6 (0.5)	235 (2.5)
Hawaii	16 (0.8)	280 (2.4)	37 (0.8)	266 (1.4)	32 (1.0)	247 (1.3)	14 (0.8)	229 (2.2)
Idaho	22 (1.0)	295 (1.3)	44 (0.9)	279 (0.9)	25 (0.8)	258 (1.0)	8 (0.5)	246 (2.1)
Indiana	21 (0.8)	292 (1.8)	43 (0.9)	274 (1.2)	28 (1.1)	254 (1.2)	7 (0.5)	239 (2.0)
Iowa	26 (1.1)	304 (1.3)	45 (1.1)	285 (1.1)	24 (0.9)	265 (0.9)	5 (0.6)	249 (2.5)
Kentucky	19 (0.9)	284 (2.3)	42 (1.0)	268 (1.1)	31 (1.0)	246 (1.6)	8 (0.6)	235 (2.1)
Louisiana	18 (0.8)	262 (3.2)	40 (1.1)	257 (1.6)	33 (1.1)	237 (1.5)	9 (0.7)	233 (3.2)
Maine	22 (1.0)	300 (1.4)	46 (1.2)	281 (1.1)	25 (0.9)	262 (1.5)	7 (0.5)	248 (3.4)
Maryland	25 (0.9)	290 (1.9)	42 (0.9)	268 (1.5)	25 (0.8)	242 (1.8)	7 (0.6)	234 (3.0)
Massachusetts	22 (1.1)	296 (1.9)	43 (1.0)	276 (1.2)	27 (0.9)	255 (1.2)	8 (0.6)	240 (2.5)
Michigan	24 (1.2)	286 (2.3)	44 (1.2)	270 (1.4)	25 (1.0)	248 (1.5)	7 (0.5)	246 (2.7)
Minnesota	26 (1.1)	304 (1.3)	46 (1.1)	283 (1.1)	21 (0.9)	262 (1.3)	7 (0.6)	251 (2.2)
Mississippi	17 (0.8)	262 (2.5)	39 (0.9)	252 (1.3)	34 (1.1)	236 (1.4)	10 (0.8)	224 (2.7)
Missouri	25 (0.9)	291 (1.8)	43 (0.9)	273 (1.3)	25 (0.9)	253 (1.4)	7 (0.6)	243 (2.7)
Nebraska	24 (1.2)	298 (1.5)	44 (1.3)	280 (1.5)	25 (1.0)	261 (1.5)	7 (0.5)	244 (2.7)
New Hampshire	25 (0.9)	296 (1.7)	44 (1.1)	281 (1.2)	23 (0.9)	262 (1.3)	8 (0.6)	249 (2.1)
New Jersey	26 (1.0)	294 (2.0)	43 (1.3)	274 (1.5)	24 (0.9)	251 (1.7)	7 (0.6)	241 (3.5)
New Mexico	17 (0.7)	279 (1.8)	39 (1.1)	267 (1.1)	31 (0.9)	247 (1.2)	13 (0.8)	233 (1.9)
New York	23 (1.3)	292 (2.2)	43 (1.1)	269 (1.7)	27 (1.2)	246 (2.5)	7 (0.6)	234 (4.4)
North Carolina	19 (0.9)	276 (2.2)	41 (1.2)	264 (1.4)	30 (1.1)	244 (1.3)	9 (0.5)	233 (2.7)
North Dakota	20 (1.0)	304 (1.3)	44 (1.1)	287 (1.2)	27 (0.9)	268 (1.6)	8 (0.9)	253 (2.3)
Ohio	22 (1.0)	290 (1.8)	45 (1.4)	272 (1.7)	26 (1.1)	252 (1.8)	8 (0.8)	239 (1.9)
Oklahoma	17 (1.0)	287 (1.6)	42 (1.4)	274 (1.5)	30 (1.1)	255 (1.3)	10 (0.8)	240 (2.0)
Pennsylvania	24 (0.9)	292 (2.4)	43 (0.9)	274 (1.2)	27 (0.8)	254 (1.6)	6 (0.5)	239 (2.5)
Rhode Island	19 (0.9)	286 (2.1)	43 (0.9)	272 (0.9)	28 (1.1)	249 (1.3)	10 (0.7)	236 (2.2)
South Carolina	23 (1.1)	281 (1.9)	42 (1.1)	263 (1.3)	28 (0.9)	244 (1.0)	6 (0.5)	239 (2.4)
Tennessee	18 (1.1)	281 (1.8)	41 (1.0)	264 (1.6)	32 (1.2)	244 (1.5)	9 (0.7)	235 (2.1)
Texas	20 (1.0)	293 (2.1)	40 (1.0)	269 (1.5)	30 (1.0)	246 (1.6)	10 (0.6)	235 (2.1)
Utah	25 (0.9)	295 (1.2)	43 (1.0)	276 (1.1)	24 (0.8)	258 (1.1)	8 (0.5)	242 (2.3)
Virginia	21 (0.8)	291 (2.0)	44 (0.8)	272 (1.2)	28 (0.8)	250 (1.5)	8 (0.6)	237 (1.9)
West Virginia	14 (0.7)	278 (2.2)	40 (1.1)	267 (1.2)	34 (0.9)	248 (1.2)	12 (0.8)	236 (1.5)
Wisconsin	23 (1.2)	301 (1.7)	44 (1.1)	281 (1.2)	25 (1.3)	260 (1.7)	8 (0.6)	246 (3.2)
Wyoming	24 (1.1)	293 (1.2)	44 (1.1)	278 (0.9)	24 (0.9)	259 (1.2)	9 (0.7)	250 (1.8)
TERRITORIES								
Guam	7 (0.5)	255 (3.5)	27 (1.2)	249 (1.8)	44 (1.3)	231 (1.4)	22 (1.3)	217 (1.9)
Virgin Islands	14 (1.1)	229 (2.0)	34 (1.1)	229 (1.5)	37 (1.1)	216 (1.7)	15 (0.7)	214 (2.6)

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TABLE 12.3 Students' Reports on Degree of Difficulty of the NAEP Test Compared with Other Mathematics Tests Taken This Year, Grades 4, 8, and 12

	Much Harder		Harder		About as Hard		Not as Hard	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4								
Nation	20 (0.5)	206 (1.1)	21 (0.7)	223 (1.4)	32 (0.7)	225 (0.9)	27 (0.8)	217 (1.0)
White	17 (0.6)	215 (1.5)	22 (1.0)	230 (1.4)	34 (0.9)	232 (1.0)	26 (0.9)	225 (1.2)
Black	28 (1.3)	189 (2.0)	17 (1.3)	192 (2.1)	26 (1.1)	195 (2.4)	28 (1.7)	192 (1.9)
Hispanic	22 (1.5)	195 (2.4)	17 (1.1)	206 (3.0)	32 (1.5)	205 (1.8)	29 (1.7)	199 (1.9)
Asian/Pacific Islander	19 (2.7)	215 (3.3)	28 (4.0)	228 (4.9)	37 (2.7)	242 (3.7)	16 (3.0)	233 (4.8)
American Indian	25 (4.1)	198 (4.3)	22 (3.3)	210 (7.2)	22 (3.8)	213 (9.2)	31 (4.1)	215 (3.5)
Male	21 (0.9)	209 (1.4)	20 (0.9)	223 (1.8)	30 (1.0)	227 (1.2)	28 (1.0)	219 (1.3)
Female	18 (0.7)	203 (1.5)	22 (0.9)	224 (1.7)	35 (0.9)	223 (1.4)	25 (1.1)	214 (1.6)
Grade 8								
Nation	9 (0.5)	242 (1.6)	23 (0.6)	263 (1.0)	34 (0.8)	267 (1.0)	33 (0.9)	279 (1.2)
White	7 (0.5)	252 (2.5)	24 (0.7)	273 (1.1)	34 (0.9)	275 (1.2)	35 (1.0)	288 (1.4)
Black	15 (1.4)	225 (2.8)	25 (1.5)	234 (2.3)	34 (1.7)	239 (1.9)	27 (1.9)	244 (3.1)
Hispanic	14 (1.3)	229 (2.4)	22 (1.3)	243 (2.4)	37 (1.6)	249 (2.2)	27 (1.7)	254 (2.8)
Asian/Pacific Islander	4 (1.5)	262 (5.0)	24 (3.2)	265 (6.5)	35 (3.5)	287 (6.0)	37 (3.9)	307 (6.1)
American Indian	5 (1.8)	251 (9.8)	16 (3.5)	252 (7.8)	40 (3.6)	253 (4.2)	40 (5.2)	256 (4.3)
Male	10 (0.5)	243 (2.1)	23 (0.8)	262 (1.4)	34 (1.1)	267 (1.5)	34 (1.2)	279 (1.6)
Female	8 (0.6)	240 (2.2)	24 (0.8)	264 (1.1)	35 (1.0)	266 (1.2)	32 (1.0)	280 (1.6)
Grade 12								
Nation	10 (0.5)	273 (1.3)	19 (0.7)	285 (1.3)	33 (0.8)	292 (0.9)	38 (1.1)	318 (0.9)
White	9 (0.6)	278 (1.7)	19 (0.8)	290 (1.5)	31 (1.0)	298 (1.0)	41 (1.3)	323 (1.0)
Black	12 (1.5)	257 (2.7)	22 (1.7)	266 (2.2)	37 (1.6)	274 (2.0)	28 (2.2)	292 (2.4)
Hispanic	11 (1.9)	263 (4.1)	20 (1.9)	276 (3.6)	42 (1.6)	281 (2.6)	28 (2.1)	299 (2.8)
Asian/Pacific Islander	6 (2.1)	289 (8.5)	11 (2.3)	297 (7.2)	30 (3.2)	300 (4.7)	53 (4.4)	331 (3.0)
American Indian	12 (6.1)	256(11.4)	29 (9.2)	267(16.3)	37 (5.3)	293 (9.7)	23 (5.1)	297(19.9)
Male	11 (0.7)	276 (1.5)	20 (0.9)	287 (1.7)	30 (1.1)	293 (1.3)	40 (1.3)	320 (1.2)
Female	9 (0.6)	270 (2.0)	18 (0.9)	282 (1.6)	35 (1.0)	291 (1.2)	37 (1.4)	317 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 12.4 | Students' Reports on Degree of Difficulty of the NAEP Test Compared with Other Mathematics Tests Taken this Year

PUBLIC SCHOOLS	Grade 4 - 1992							
	Much Harder		Harder		About As Hard		Not as Hard	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	20 (0.6)	205 (1.3)	21 (0.8)	222 (1.6)	32 (0.8)	224 (1.0)	27 (0.9)	216 (1.1)
Northeast	17 (1.2)	204 (3.0)	22 (1.4)	225 (3.7)	35 (1.2)	230 (3.0)	27 (1.8)	223 (2.2)
Southeast	23 (1.1)	200 (2.7)	17 (1.3)	213 (2.7)	29 (1.1)	215 (2.4)	31 (1.3)	208 (2.4)
Central	20 (1.3)	213 (3.6)	24 (2.2)	228 (2.8)	33 (2.2)	227 (2.0)	22 (2.1)	217 (3.1)
West	19 (1.2)	205 (2.0)	21 (1.1)	220 (3.0)	32 (1.7)	223 (2.0)	28 (1.9)	216 (2.0)
STATES								
Alabama	27 (1.0)	201 (1.7)	18 (0.8)	217 (2.5)	28 (1.1)	212 (2.1)	27 (1.2)	202 (1.9)
Arizona	18 (0.9)	201 (1.7)	19 (0.7)	216 (2.1)	33 (0.9)	218 (1.5)	30 (1.0)	216 (1.2)
Arkansas	25 (0.9)	202 (1.8)	19 (1.0)	216 (1.8)	29 (1.1)	213 (1.5)	28 (1.4)	207 (1.3)
California	24 (1.2)	193 (1.8)	21 (1.0)	211 (1.9)	31 (1.1)	213 (2.3)	24 (1.1)	212 (2.3)
Colorado	17 (0.8)	207 (1.3)	23 (1.0)	224 (1.5)	34 (0.9)	223 (1.2)	26 (1.2)	220 (1.5)
Connecticut	17 (1.0)	207 (2.1)	21 (1.0)	232 (1.5)	36 (1.3)	231 (1.3)	26 (1.1)	227 (1.7)
Delaware	25 (1.1)	202 (1.2)	22 (0.9)	221 (1.6)	30 (1.2)	225 (1.7)	23 (1.2)	217 (1.7)
Dist. Columbia	26 (0.8)	185 (1.2)	16 (0.6)	191 (2.3)	31 (0.9)	198 (1.3)	27 (1.0)	190 (1.6)
Florida	23 (1.2)	203 (2.1)	22 (1.3)	220 (2.9)	30 (1.1)	217 (1.7)	25 (1.2)	210 (1.6)
Georgia	23 (1.1)	206 (1.8)	20 (0.9)	223 (1.8)	30 (0.8)	218 (1.6)	27 (0.9)	211 (1.6)
Hawaii	26 (1.0)	201 (1.7)	21 (0.9)	218 (2.4)	33 (1.0)	219 (1.8)	20 (0.8)	214 (1.8)
Idaho	21 (1.0)	211 (1.3)	23 (1.1)	229 (1.6)	33 (1.0)	223 (1.2)	23 (0.9)	216 (1.4)
Indiana	23 (1.1)	209 (1.6)	22 (0.9)	226 (1.5)	32 (1.0)	225 (1.1)	22 (0.9)	217 (1.5)
Iowa	17 (1.0)	215 (1.7)	24 (1.0)	235 (1.3)	36 (1.2)	235 (1.3)	23 (1.0)	225 (1.4)
Kentucky	25 (1.2)	204 (1.2)	21 (0.9)	223 (1.4)	29 (1.0)	218 (1.5)	25 (1.1)	211 (1.6)
Louisiana	26 (1.0)	197 (1.5)	16 (0.8)	210 (2.3)	27 (1.0)	208 (1.6)	31 (1.1)	201 (2.3)
Maine	14 (0.8)	218 (1.8)	19 (1.0)	234 (1.6)	38 (1.3)	237 (1.4)	30 (1.4)	229 (1.3)
Maryland	21 (0.8)	199 (1.9)	20 (1.0)	219 (2.4)	34 (1.0)	223 (1.6)	25 (0.9)	220 (1.9)
Massachusetts	18 (0.9)	211 (1.9)	29 (1.1)	233 (1.2)	33 (1.0)	228 (1.4)	19 (0.9)	224 (2.3)
Michigan	19 (1.0)	206 (2.1)	21 (0.8)	224 (1.8)	36 (1.2)	224 (2.0)	25 (1.0)	217 (2.1)
Minnesota	20 (1.1)	214 (1.3)	27 (1.1)	231 (1.4)	33 (1.0)	235 (1.1)	21 (1.0)	225 (1.8)
Mississippi	28 (1.1)	197 (1.3)	18 (1.0)	208 (1.8)	26 (0.9)	202 (1.7)	28 (1.2)	197 (1.8)
Missouri	22 (1.1)	212 (1.7)	23 (1.1)	229 (1.6)	32 (1.1)	224 (1.7)	22 (0.9)	217 (1.7)
Nebraska	22 (1.0)	211 (1.5)	27 (1.3)	231 (1.5)	31 (1.3)	229 (1.6)	19 (0.9)	224 (2.1)
New Hampshire	17 (1.0)	216 (1.8)	28 (1.2)	236 (1.6)	33 (1.0)	230 (1.5)	22 (1.2)	228 (1.9)
New Jersey	18 (0.9)	214 (1.8)	24 (1.2)	233 (1.7)	33 (1.0)	230 (1.9)	25 (1.2)	223 (2.3)
New Mexico	22 (1.3)	203 (1.4)	20 (1.0)	219 (2.0)	32 (1.2)	215 (1.7)	26 (1.5)	212 (2.8)
New York	19 (1.0)	205 (1.9)	23 (1.0)	225 (2.1)	31 (1.1)	222 (1.6)	27 (1.4)	215 (2.0)
North Carolina	24 (1.1)	202 (1.4)	19 (0.9)	220 (2.1)	30 (1.1)	218 (1.7)	26 (1.0)	208 (1.6)
North Dakota	19 (1.0)	216 (1.7)	28 (1.0)	235 (1.2)	32 (1.0)	230 (1.1)	21 (1.2)	224 (1.4)
Ohio	26 (1.0)	207 (1.4)	22 (1.0)	225 (1.6)	28 (0.9)	223 (1.9)	23 (0.9)	216 (1.8)
Oklahoma	22 (0.9)	212 (1.4)	19 (1.0)	224 (1.9)	33 (1.2)	224 (1.5)	26 (1.0)	216 (1.3)
Pennsylvania	20 (0.9)	209 (1.6)	26 (0.9)	231 (1.7)	33 (1.1)	227 (1.5)	20 (1.0)	221 (2.1)
Rhode Island	24 (0.9)	204 (2.0)	28 (1.1)	224 (1.5)	29 (1.1)	215 (2.1)	18 (1.1)	212 (2.0)
South Carolina	26 (1.0)	202 (1.4)	17 (0.8)	218 (1.8)	28 (1.0)	217 (1.5)	28 (1.0)	210 (1.6)
Tennessee	24 (1.1)	202 (1.4)	21 (1.0)	215 (2.0)	30 (1.0)	215 (1.9)	25 (1.2)	205 (1.9)
Texas	24 (1.2)	210 (1.6)	18 (1.1)	224 (2.3)	32 (1.1)	220 (1.7)	26 (1.1)	214 (1.8)
Utah	19 (1.0)	211 (1.6)	23 (0.9)	227 (1.3)	35 (1.1)	227 (1.1)	24 (1.0)	222 (1.5)
Virginia	24 (0.9)	209 (1.3)	21 (0.8)	227 (2.0)	29 (1.1)	224 (1.9)	26 (1.0)	220 (1.8)
West Virginia	25 (0.8)	206 (1.4)	24 (1.0)	220 (1.8)	28 (0.9)	219 (1.3)	23 (0.9)	210 (1.9)
Wisconsin	19 (0.9)	215 (1.6)	25 (1.0)	233 (1.5)	34 (1.0)	232 (1.3)	21 (1.1)	226 (1.8)
Wyoming	21 (1.0)	215 (1.5)	24 (0.8)	230 (1.4)	32 (1.1)	228 (1.1)	23 (0.9)	221 (1.6)
TERRITORY								
Guam	33 (1.2)	190 (1.2)	20 (0.8)	190 (2.2)	28 (1.4)	194 (1.6)	19 (1.0)	191 (2.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

TABLE 12.4 | Students' Reports on Degree of Difficulty of the NAEP Test Compared with Other Tests Taken this Year (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Much Harder		Harder		About As Hard		Not as Hard	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	9 (0.5)	241 (1.8)	23 (0.6)	262 (1.1)	35 (0.8)	265 (1.1)	33 (0.9)	278 (1.3)
Northeast	10 (1.3)	242 (4.8)	21 (1.8)	263 (3.1)	37 (2.4)	263 (3.7)	32 (2.1)	282 (3.3)
Southeast	12 (1.2)	241 (3.9)	26 (1.2)	254 (2.0)	32 (1.9)	259 (1.8)	30 (2.2)	267 (1.9)
Central	7 (1.0)	244 (3.7)	23 (1.1)	268 (3.0)	36 (1.5)	272 (1.9)	34 (1.4)	284 (2.6)
West	9 (0.8)	238 (2.3)	22 (0.9)	262 (2.0)	34 (1.0)	267 (2.3)	34 (1.6)	278 (2.7)
STATES								
Alabama	13 (0.8)	235 (2.2)	24 (1.0)	253 (2.1)	36 (1.1)	252 (2.1)	28 (0.9)	257 (2.6)
Arizona	9 (0.7)	246 (2.0)	26 (1.2)	262 (1.6)	36 (1.0)	264 (1.7)	29 (1.6)	274 (1.6)
Arkansas	14 (1.0)	238 (2.4)	26 (1.0)	259 (1.7)	32 (1.1)	257 (1.4)	27 (1.2)	260 (1.8)
California	10 (0.6)	233 (3.1)	26 (1.1)	258 (1.9)	36 (0.9)	258 (2.2)	28 (1.4)	275 (2.6)
Colorado	8 (0.5)	246 (2.5)	25 (0.9)	268 (1.5)	36 (0.9)	271 (1.3)	31 (1.1)	282 (1.4)
Connecticut	8 (0.6)	244 (3.8)	24 (1.0)	266 (1.6)	35 (0.9)	272 (1.3)	33 (1.2)	287 (1.5)
Delaware	11 (0.9)	239 (3.4)	26 (1.1)	258 (1.7)	35 (1.1)	261 (1.7)	29 (0.8)	276 (1.8)
Dist. Columbia	12 (0.7)	216 (2.8)	21 (0.8)	232 (1.8)	42 (1.5)	236 (1.3)	25 (1.2)	241 (2.3)
Florida	13 (0.9)	237 (2.2)	26 (1.1)	256 (1.8)	32 (1.1)	258 (2.0)	30 (1.5)	273 (1.9)
Georgia	9 (0.6)	239 (2.7)	23 (0.9)	257 (1.4)	37 (1.0)	257 (1.5)	32 (1.1)	267 (1.7)
Hawaii	12 (0.7)	233 (2.0)	24 (0.9)	252 (1.6)	39 (1.1)	257 (1.4)	25 (1.0)	274 (1.8)
Idaho	8 (0.8)	251 (2.1)	24 (1.1)	272 (1.2)	36 (1.0)	275 (1.1)	33 (1.2)	281 (1.1)
Indiana	9 (0.7)	244 (2.1)	28 (1.1)	269 (1.3)	37 (1.0)	269 (1.6)	26 (1.2)	280 (1.8)
Iowa	6 (0.7)	267 (3.1)	23 (1.2)	279 (1.5)	35 (1.1)	281 (1.1)	36 (1.5)	290 (1.5)
Kentucky	12 (0.7)	241 (1.5)	26 (0.9)	261 (1.3)	35 (1.0)	260 (1.6)	28 (1.1)	272 (1.8)
Louisiana	17 (1.0)	240 (2.1)	26 (1.1)	252 (1.9)	34 (1.1)	248 (2.0)	23 (1.1)	254 (2.4)
Maine	8 (0.7)	255 (2.6)	24 (1.2)	272 (1.6)	35 (0.9)	277 (1.1)	33 (1.4)	289 (1.4)
Maryland	11 (0.9)	236 (2.5)	27 (1.0)	259 (1.9)	32 (1.1)	262 (1.4)	31 (1.2)	282 (1.9)
Massachusetts	12 (0.9)	248 (2.8)	29 (1.2)	267 (1.4)	33 (1.2)	272 (1.5)	25 (1.2)	290 (1.6)
Michigan	10 (0.8)	245 (2.6)	25 (1.0)	264 (1.7)	35 (1.0)	266 (1.5)	30 (1.3)	277 (2.1)
Minnesota	6 (0.5)	259 (2.1)	23 (1.0)	277 (1.6)	34 (0.9)	280 (1.2)	37 (1.4)	291 (1.3)
Mississippi	17 (1.0)	234 (2.0)	29 (1.0)	251 (1.5)	32 (1.0)	245 (1.9)	22 (1.0)	246 (2.3)
Missouri	8 (0.5)	252 (2.5)	22 (1.2)	268 (1.4)	37 (1.2)	270 (1.5)	32 (1.4)	277 (1.9)
Nebraska	8 (0.6)	255 (2.7)	26 (1.4)	276 (1.5)	36 (1.2)	278 (1.4)	30 (1.3)	284 (1.6)
New Hampshire	8 (0.5)	255 (2.2)	27 (1.0)	274 (1.3)	35 (1.1)	277 (1.3)	31 (1.2)	288 (1.7)
New Jersey	8 (0.8)	247 (3.5)	24 (1.1)	267 (2.0)	35 (1.3)	271 (2.0)	32 (1.1)	282 (1.8)
New Mexico	12 (0.6)	245 (1.8)	28 (1.0)	258 (1.1)	34 (0.9)	258 (1.3)	25 (1.2)	267 (1.9)
New York	9 (0.9)	239 (4.0)	24 (1.2)	263 (2.3)	35 (1.1)	262 (2.7)	32 (1.6)	279 (2.7)
North Carolina	12 (0.7)	242 (2.1)	26 (1.1)	255 (1.7)	36 (0.9)	259 (1.4)	25 (1.1)	266 (2.1)
North Dakota	6 (0.7)	263 (3.0)	30 (1.5)	282 (1.8)	35 (1.4)	283 (1.4)	28 (1.3)	287 (1.5)
Ohio	10 (1.1)	249 (2.1)	26 (1.1)	266 (2.1)	36 (1.7)	267 (1.6)	27 (1.3)	278 (2.4)
Oklahoma	12 (1.0)	250 (2.4)	28 (1.1)	268 (1.7)	36 (1.3)	268 (1.6)	24 (1.2)	274 (1.4)
Pennsylvania	9 (0.7)	247 (2.9)	31 (1.3)	267 (1.6)	34 (1.0)	271 (1.5)	26 (1.0)	285 (2.3)
Rhode Island	12 (0.7)	245 (2.4)	29 (1.0)	261 (1.3)	32 (0.9)	264 (1.2)	26 (0.8)	280 (1.3)
South Carolina	10 (0.6)	239 (2.0)	23 (0.8)	257 (1.4)	37 (0.8)	258 (1.2)	30 (1.1)	272 (1.9)
Tennessee	13 (0.9)	242 (2.1)	30 (1.1)	259 (1.9)	35 (1.0)	259 (1.6)	22 (1.1)	266 (2.3)
Texas	8 (0.6)	245 (2.4)	21 (1.1)	259 (1.5)	36 (0.8)	262 (1.3)	35 (1.1)	273 (2.5)
Utah	6 (0.6)	249 (3.1)	22 (1.0)	271 (1.6)	37 (0.9)	271 (1.2)	35 (1.1)	283 (1.1)
Virginia	9 (0.7)	246 (2.5)	26 (1.0)	261 (1.5)	34 (0.8)	267 (1.3)	31 (1.1)	279 (1.8)
West Virginia	15 (0.9)	242 (1.7)	33 (1.0)	258 (1.2)	32 (0.9)	259 (1.5)	21 (1.1)	270 (2.1)
Wisconsin	8 (0.8)	254 (4.1)	24 (1.3)	274 (1.6)	37 (1.3)	275 (1.8)	32 (2.5)	289 (1.9)
Wyoming	7 (0.6)	260 (2.0)	26 (0.9)	269 (1.6)	35 (0.9)	274 (1.1)	32 (1.1)	282 (0.9)
TERRITORIES								
Guam	19 (0.9)	220 (2.5)	23 (0.9)	232 (2.1)	39 (1.3)	237 (1.7)	19 (1.1)	248 (2.6)
Virgin Islands	26 (1.2)	214 (1.8)	27 (1.3)	227 (1.9)	30 (1.3)	221 (1.6)	16 (1.0)	227 (2.1)

TABLE 12.5 Students' Reports on How Hard They Tried on the NAEP Test Compared with Other Mathematics Tests Taken This Year in School, Grades 4, 8, and 12

	Much Harder		Harder		About as Hard		Not as Hard	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4								
Nation	35 (0.6)	214 (0.9)	20 (0.5)	220 (1.4)	35 (0.7)	227 (0.9)	10 (0.5)	205 (2.0)
White	33 (0.7)	222 (1.2)	21 (0.6)	227 (1.5)	38 (0.9)	234 (1.0)	8 (0.6)	216 (2.3)
Black	41 (1.5)	194 (1.8)	18 (1.4)	191 (2.6)	26 (1.5)	195 (2.3)	15 (1.1)	181 (3.0)
Hispanic	38 (1.8)	200 (2.1)	18 (1.5)	202 (3.6)	32 (1.7)	206 (2.0)	13 (1.1)	190 (2.8)
Asian/Pacific Islander	36 (3.0)	226 (3.6)	20 (3.1)	232 (5.9)	38 (3.2)	237 (3.1)	6 (1.3)	227 (8.2)
American Indian	37 (4.7)	205 (4.1)	25 (3.9)	206 (5.8)	24 (4.5)	222 (5.6)	14 (2.6)	204 (5.8)
Male	35 (0.9)	216 (1.1)	20 (0.7)	221 (1.8)	34 (1.0)	228 (1.3)	11 (0.6)	208 (2.2)
Female	35 (0.8)	213 (1.1)	21 (0.7)	219 (1.8)	36 (0.9)	226 (1.1)	8 (0.6)	200 (2.7)
Grade 8								
Nation	12 (0.5)	246 (1.5)	18 (0.6)	259 (1.2)	49 (0.8)	276 (1.0)	20 (0.7)	269 (1.4)
White	9 (0.5)	256 (1.7)	16 (0.6)	271 (1.4)	54 (1.0)	283 (1.1)	21 (0.9)	277 (1.5)
Black	22 (1.7)	231 (2.5)	24 (1.5)	231 (2.2)	37 (1.8)	245 (2.0)	18 (1.5)	236 (2.4)
Hispanic	20 (1.8)	237 (2.6)	21 (1.4)	238 (2.1)	40 (1.7)	254 (2.0)	18 (1.4)	249 (3.8)
Asian/Pacific Islander	8 (1.8)	260 (8.2)	19 (3.5)	268 (5.6)	52 (4.0)	296 (5.7)	22 (1.8)	300 (4.9)
American Indian	12 (3.0)	240 (3.4)	19 (4.3)	251 (6.8)	44 (4.3)	260 (4.8)	26 (3.8)	254 (5.1)
Male	13 (0.8)	246 (2.0)	17 (1.0)	258 (1.7)	47 (1.1)	276 (1.4)	23 (0.8)	269 (1.9)
Female	11 (0.7)	246 (2.0)	19 (0.9)	259 (1.8)	52 (0.8)	276 (1.0)	18 (0.9)	268 (2.0)
Grade 12								
Nation	4 (0.2)	274 (2.6)	7 (0.4)	280 (1.8)	44 (1.0)	302 (1.0)	45 (0.9)	301 (1.1)
White	3 (0.3)	283 (3.7)	6 (0.4)	289 (2.5)	46 (1.1)	308 (1.0)	45 (1.1)	306 (1.2)
Black	5 (0.7)	266 (3.4)	9 (1.0)	262 (3.1)	39 (1.9)	279 (2.2)	47 (2.5)	276 (2.2)
Hispanic	6 (1.4)	250 (6.6)	14 (1.5)	272 (4.5)	43 (4.0)	288 (2.5)	38 (3.4)	287 (2.6)
Asian/Pacific Islander	4 (1.9)	288 (8.9)	6 (1.7)	292 (8.4)	42 (4.1)	316 (3.6)	48 (4.3)	321 (4.2)
American Indian	10 (8.0)	264(23.6)	12 (5.0)	267 (7.2)	42 (6.1)	285 (9.8)	36 (9.1)	289(17.2)
Male	4 (0.4)	278 (3.6)	7 (0.6)	284 (2.6)	41 (1.2)	304 (1.2)	47 (1.2)	303 (1.4)
Female	3 (0.3)	269 (3.5)	7 (0.5)	277 (2.1)	47 (1.1)	301 (1.2)	43 (1.1)	298 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 12.6 Students' Reports on How Hard They Tried on the NAEP Test Compared with Other Mathematics Tests Taken This Year in School

PUBLIC SCHOOLS	Grade 4 - 1992							
	Much Harder		Harder		About As Hard		Not as Hard	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	36 (0.7)	214 (0.9)	21 (0.6)	218 (1.6)	34 (0.8)	226 (1.1)	10 (0.5)	203 (2.1)
Northeast	31 (1.5)	214 (2.3)	21 (2.0)	224 (3.5)	39 (2.3)	233 (2.9)	9 (1.0)	210 (3.7)
Southeast	39 (1.3)	207 (2.1)	19 (1.2)	207 (2.4)	32 (1.3)	216 (2.6)	10 (0.9)	196 (3.6)
Central	37 (1.5)	218 (2.1)	21 (1.2)	224 (3.1)	35 (1.8)	229 (2.6)	8 (1.0)	210 (5.7)
West	35 (1.1)	214 (1.7)	21 (0.8)	218 (3.0)	32 (1.3)	226 (1.5)	11 (1.1)	201 (3.9)
STATES								
Alabama	46 (1.2)	207 (1.6)	19 (0.8)	207 (2.4)	27 (1.0)	214 (2.2)	9 (0.5)	187 (2.6)
Arizona	36 (0.9)	211 (1.2)	20 (0.7)	214 (2.1)	34 (1.1)	220 (1.4)	10 (0.6)	205 (2.5)
Arkansas	46 (1.0)	209 (1.1)	17 (0.9)	210 (1.8)	28 (1.0)	214 (1.4)	10 (0.6)	194 (3.0)
California	40 (1.4)	205 (1.3)	21 (0.8)	209 (2.2)	28 (1.2)	215 (2.4)	11 (0.7)	197 (3.3)
Colorado	38 (1.2)	214 (1.2)	20 (0.9)	223 (1.8)	34 (1.1)	227 (1.3)	8 (0.6)	208 (2.3)
Connecticut	32 (1.1)	218 (1.6)	21 (0.9)	229 (1.8)	39 (1.2)	234 (1.3)	7 (0.6)	216 (2.3)
Delaware	43 (1.3)	210 (1.2)	18 (0.8)	221 (2.3)	31 (1.2)	226 (1.5)	9 (0.7)	205 (2.5)
Dist. Columbia	44 (1.1)	192 (0.9)	17 (0.9)	190 (1.6)	25 (0.9)	197 (1.3)	15 (0.7)	181 (1.7)
Florida	42 (1.0)	211 (1.4)	20 (0.8)	213 (2.5)	29 (0.9)	220 (1.8)	9 (0.6)	197 (3.0)
Georgia	43 (1.2)	212 (1.3)	18 (0.8)	215 (2.1)	30 (0.9)	223 (1.8)	9 (0.6)	199 (2.4)
Hawaii	43 (1.0)	215 (1.4)	20 (0.8)	215 (2.1)	26 (0.8)	215 (2.0)	11 (0.7)	195 (2.4)
Idaho	40 (1.3)	218 (1.0)	21 (0.8)	222 (1.6)	31 (1.1)	226 (1.5)	8 (0.6)	206 (2.5)
Indiana	41 (1.2)	216 (1.2)	19 (0.7)	221 (1.6)	33 (1.1)	227 (1.3)	7 (0.5)	206 (2.3)
Iowa	39 (1.0)	224 (1.2)	21 (0.8)	233 (1.6)	35 (1.0)	236 (1.5)	5 (0.5)	213 (3.6)
Kentucky	48 (1.0)	211 (1.0)	19 (0.8)	215 (1.9)	26 (1.0)	222 (1.7)	7 (0.6)	202 (3.0)
Louisiana	47 (1.0)	204 (1.3)	18 (0.7)	200 (2.1)	24 (0.7)	209 (2.1)	11 (0.7)	191 (2.9)
Maine	31 (1.3)	226 (1.4)	18 (1.0)	234 (1.9)	43 (1.4)	236 (1.5)	7 (0.7)	218 (2.8)
Maryland	39 (1.0)	210 (1.4)	19 (0.8)	218 (2.0)	33 (1.0)	227 (1.6)	9 (0.5)	204 (2.8)
Massachusetts	35 (1.1)	220 (1.5)	23 (1.0)	227 (1.7)	36 (0.9)	232 (1.5)	6 (0.5)	211 (3.0)
Michigan	37 (1.3)	215 (1.5)	21 (0.7)	221 (2.0)	33 (1.3)	227 (1.8)	9 (0.7)	203 (3.9)
Minnesota	36 (1.0)	223 (1.3)	20 (0.8)	232 (1.5)	38 (1.3)	234 (1.2)	6 (0.5)	209 (3.4)
Mississippi	49 (1.0)	203 (1.0)	18 (0.8)	199 (1.9)	22 (0.8)	205 (1.9)	11 (0.9)	181 (2.9)
Missouri	43 (1.2)	217 (1.2)	19 (1.0)	224 (2.0)	32 (1.1)	228 (1.5)	7 (0.7)	205 (3.2)
Nebraska	41 (1.3)	221 (1.4)	21 (1.1)	225 (1.9)	31 (1.4)	232 (1.5)	6 (0.6)	207 (3.9)
New Hampshire	33 (1.1)	223 (1.4)	21 (0.8)	232 (1.8)	39 (1.1)	234 (1.6)	6 (0.7)	218 (2.3)
New Jersey	36 (1.0)	222 (1.5)	19 (0.8)	228 (2.2)	35 (1.1)	233 (1.5)	9 (0.7)	212 (3.5)
New Mexico	43 (1.1)	210 (1.6)	18 (0.7)	215 (1.8)	28 (1.2)	218 (2.1)	10 (0.6)	198 (3.0)
New York	37 (1.3)	215 (1.4)	19 (0.9)	222 (2.0)	33 (1.1)	224 (1.7)	11 (0.7)	204 (2.4)
North Carolina	45 (1.3)	210 (1.1)	17 (0.7)	210 (1.5)	28 (1.2)	221 (1.7)	10 (0.7)	196 (2.8)
North Dakota	38 (1.2)	226 (1.3)	21 (0.9)	228 (1.2)	36 (1.3)	231 (1.3)	5 (0.5)	217 (3.4)
Ohio	44 (1.2)	212 (1.2)	19 (0.8)	222 (1.5)	30 (1.2)	226 (1.9)	8 (0.6)	205 (2.6)
Oklahoma	45 (1.1)	217 (1.1)	17 (0.7)	219 (1.7)	30 (1.2)	225 (1.7)	7 (0.6)	208 (2.[illegible])
Pennsylvania	39 (1.1)	217 (1.5)	21 (0.7)	228 (2.3)	33 (1.1)	231 (1.5)	7 (0.6)	209 (2.8)
Rhode Island	38 (1.0)	210 (1.4)	22 (0.9)	216 (2.1)	32 (1.2)	223 (2.0)	8 (0.8)	197 (3.5)
South Carolina	48 (0.9)	209 (1.3)	19 (0.8)	211 (1.9)	25 (1.0)	220 (2.1)	9 (0.5)	198 (3.2)
Tennessee	45 (1.1)	208 (1.3)	19 (0.9)	212 (2.0)	29 (0.8)	216 (1.9)	8 (0.6)	188 (2.9)
Texas	46 (1.3)	217 (1.4)	18 (0.9)	221 (2.3)	28 (0.9)	221 (1.9)	9 (0.6)	198 (3.1)
Utah	40 (1.0)	219 (1.1)	21 (0.9)	226 (1.5)	31 (1.0)	229 (1.3)	7 (0.6)	210 (2.9)
Virginia	42 (1.0)	217 (1.2)	19 (0.7)	223 (2.0)	30 (1.0)	227 (2.0)	9 (0.5)	204 (2.4)
West Virginia	46 (1.0)	213 (1.3)	20 (0.8)	215 (1.6)	27 (0.8)	219 (1.4)	7 (0.5)	197 (2.9)
Wisconsin	36 (1.2)	223 (1.3)	22 (0.8)	232 (1.4)	35 (1.1)	233 (1.5)	6 (0.7)	215 (3.5)
Wyoming	41 (1.2)	221 (1.2)	20 (0.7)	226 (1.3)	31 (1.1)	230 (1.2)	7 (0.6)	212 (3.0)
TERRITORY								
Guam	36 (1.1)	195 (1.4)	23 (0.9)	192 (1.7)	26 (1.1)	194 (2.0)	16 (0.7)	177 (2.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 12.6 | Students' Reports on How Hard They Tried on the NAEP Test as Compared with Other Mathematics Tests Taken This Year in School (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Much Harder		Harder		About As Hard		Not as Hard	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	13 (0.5)	245 (1.5)	18 (0.7)	257 (1.2)	49 (0.8)	275 (1.1)	20 (0.8)	267 (1.5)
Northeast	11 (1.0)	242 (3.1)	17 (1.1)	254 (4.3)	51 (2.1)	276 (3.4)	21 (2.2)	269 (3.5)
Southeast	17 (1.2)	245 (3.0)	19 (1.2)	250 (2.4)	44 (1.1)	266 (1.0)	19 (1.3)	261 (3.0)
Central	11 (1.0)	251 (2.5)	16 (1.3)	266 (3.1)	52 (2.0)	280 (2.1)	21 (1.9)	273 (3.2)
West	13 (1.3)	243 (3.6)	20 (1.3)	259 (2.2)	48 (1.7)	277 (2.1)	19 (1.2)	265 (2.9)
STATES								
Alabama	21 (1.1)	240 (2.4)	22 (0.9)	247 (1.8)	45 (1.0)	259 (1.9)	13 (0.9)	250 (3.0)
Arizona	14 (0.9)	250 (1.9)	23 (0.9)	259 (2.1)	48 (1.0)	272 (1.2)	15 (0.7)	265 (2.3)
Arkansas	19 (1.0)	242 (1.9)	23 (0.8)	252 (1.6)	45 (1.0)	262 (1.4)	14 (0.8)	258 (2.0)
California	16 (1.1)	242 (3.0)	23 (1.0)	252 (2.1)	46 (1.2)	269 (1.9)	14 (1.0)	266 (2.6)
Colorado	12 (0.7)	254 (2.1)	21 (0.8)	265 (1.6)	53 (0.9)	278 (1.1)	14 (0.7)	273 (1.9)
Connecticut	12 (0.6)	251 (2.4)	17 (0.8)	264 (2.1)	53 (1.0)	281 (1.2)	18 (1.0)	275 (2.0)
Delaware	16 (0.9)	243 (2.9)	19 (1.0)	252 (2.1)	48 (1.2)	273 (1.5)	17 (0.8)	262 (2.4)
Dist. Columbia	25 (1.3)	225 (1.8)	23 (0.9)	229 (2.0)	36 (1.0)	242 (1.5)	15 (0.8)	238 (3.2)
Florida	16 (0.9)	241 (2.1)	21 (1.1)	251 (1.5)	46 (1.2)	268 (1.9)	17 (0.9)	262 (2.0)
Georgia	20 (0.9)	243 (1.8)	23 (0.9)	255 (1.7)	45 (1.0)	266 (1.5)	12 (0.7)	262 (3.0)
Hawaii	19 (0.7)	247 (1.3)	25 (0.8)	249 (1.6)	43 (1.0)	265 (1.4)	14 (0.6)	261 (2.5)
Idaho	11 (0.6)	259 (1.6)	21 (0.9)	272 (1.5)	52 (0.9)	280 (0.9)	16 (0.9)	272 (1.9)
Indiana	13 (0.6)	258 (2.1)	23 (0.9)	261 (1.7)	51 (1.1)	276 (1.2)	13 (0.7)	272 (2.6)
Iowa	11 (0.7)	270 (2.1)	23 (1.2)	279 (1.4)	55 (1.2)	288 (1.1)	12 (0.7)	279 (2.8)
Kentucky	19 (0.9)	246 (1.8)	24 (1.0)	257 (1.6)	47 (1.0)	269 (1.5)	10 (0.7)	262 (2.2)
Louisiana	25 (1.1)	240 (1.7)	25 (0.9)	247 (1.8)	38 (1.1)	256 (2.4)	11 (0.7)	251 (2.9)
Maine	12 (0.9)	264 (2.3)	19 (0.7)	274 (1.6)	54 (1.1)	283 (1.2)	15 (0.9)	277 (1.9)
Maryland	16 (0.9)	241 (1.8)	23 (0.9)	259 (1.8)	47 (1.1)	275 (1.5)	15 (0.9)	267 (2.5)
Massachusetts	14 (0.7)	250 (1.9)	21 (0.8)	264 (1.8)	52 (0.9)	280 (1.1)	13 (0.8)	276 (2.5)
Michigan	17 (1.0)	248 (2.0)	23 (1.0)	260 (1.4)	49 (1.1)	275 (1.6)	12 (0.8)	269 (2.6)
Minnesota	7 (0.6)	271 (2.5)	19 (0.9)	273 (1.7)	59 (1.0)	288 (1.2)	14 (0.9)	276 (2.0)
Mississippi	26 (1.2)	235 (1.5)	27 (0.9)	244 (1.6)	37 (1.5)	253 (1.7)	10 (0.6)	250 (3.3)
Missouri	15 (0.9)	257 (2.2)	22 (0.8)	267 (1.6)	52 (1.3)	277 (1.3)	12 (0.8)	268 (2.0)
Nebraska	10 (0.7)	259 (2.6)	20 (0.9)	272 (2.0)	56 (1.3)	283 (1.1)	14 (0.8)	272 (2.2)
New Hampshire	10 (0.7)	262 (2.2)	19 (0.9)	273 (1.6)	52 (1.1)	283 (1.1)	20 (1.0)	276 (1.7)
New Jersey	15 (1.0)	252 (2.4)	21 (1.0)	264 (2.1)	49 (1.1)	280 (1.6)	15 (0.9)	273 (2.9)
New Mexico	18 (1.0)	248 (1.7)	23 (1.0)	253 (1.2)	44 (1.2)	266 (1.3)	15 (0.9)	259 (2.3)
New York	12 (0.9)	248 (3.5)	19 (1.2)	258 (3.3)	51 (1.3)	272 (1.8)	18 (0.9)	267 (3.6)
North Carolina	19 (1.0)	243 (2.1)	24 (0.8)	251 (1.3)	45 (1.1)	266 (1.4)	12 (0.6)	260 (2.5)
North Dakota	9 (0.7)	273 (2.0)	22 (0.9)	281 (1.9)	57 (1.4)	286 (1.2)	13 (1.0)	277 (2.2)
Ohio	15 (0.9)	250 (1.9)	24 (1.0)	264 (1.9)	49 (1.1)	276 (1.9)	12 (0.8)	267 (3.2)
Oklahoma	15 (1.1)	256 (2.1)	24 (1.0)	262 (1.4)	49 (1.4)	274 (1.3)	11 (0.7)	262 (2.5)
Pennsylvania	13 (1.0)	251 (2.0)	22 (1.0)	265 (1.6)	51 (1.3)	278 (1.5)	14 (1.0)	271 (3.3)
Rhode Island	13 (1.3)	248 (2.6)	20 (1.2)	259 (1.5)	52 (1.0)	271 (1.0)	16 (0.9)	268 (2.1)
South Carolina	22 (1.1)	244 (1.6)	23 (0.9)	256 (1.6)	43 (1.0)	269 (1.2)	12 (0.9)	266 (2.3)
Tennessee	18 (1.0)	246 (1.7)	25 (1.1)	254 (2.0)	47 (1.3)	265 (1.6)	10 (0.8)	258 (3.4)
Texas	19 (1.1)	249 (1.5)	22 (1.0)	258 (1.8)	45 (1.5)	272 (1.8)	14 (0.9)	269 (3.1)
Utah	11 (0.8)	258 (1.9)	19 (0.8)	265 (1.5)	56 (1.1)	280 (0.8)	14 (0.8)	275 (2.0)
Virginia	16 (0.8)	249 (1.7)	22 (0.7)	261 (1.5)	48 (1.1)	276 (1.2)	15 (0.8)	270 (2.7)
West Virginia	19 (0.9)	248 (1.5)	25 (0.9)	255 (1.2)	45 (1.0)	264 (1.2)	10 (0.6)	260 (2.1)
Wisconsin	11 (0.7)	261 (2.6)	18 (1.1)	268 (2.0)	55 (1.1)	284 (1.3)	15 (1.1)	279 (3.4)
Wyoming	11 (0.7)	263 (2.1)	20 (1.0)	270 (1.6)	53 (1.2)	280 (1.1)	16 (0.7)	270 (1.8)
TERRITORIES								
Guam	30 (1.2)	229 (1.9)	26 (1.1)	234 (2.0)	32 (1.2)	241 (1.8)	12 (0.8)	233 (4.2)
Virgin Islands	30 (1.2)	220 (1.7)	25 (1.1)	221 (2.1)	28 (1.1)	225 (1.5)	17 (1.1)	222 (2.5)

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TABLE 12.7 Students' Reports on How Important It Was for Them to Perform Well on the NAEP Mathematics Test, Grades 4, 8, and 12

	Very Important		Important		Somewhat Important		Not Very Important	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4								
Nation	66 (0.9)	217 (0.9)	23 (0.7)	225 (1.0)	7 (0.4)	222 (1.9)	4 (0.4)	213 (3.1)
White	63 (1.9)	226 (1.0)	26 (0.8)	230 (1.1)	8 (0.5)	228 (1.8)	4 (0.4)	224 (3.3)
Black	77 (1.2)	192 (1.4)	14 (1.0)	196 (2.7)	5 (0.7)	193 (5.7)	4 (0.7)	179 (5.9)
Hispanic	68 (1.9)	201 (1.6)	22 (1.4)	205 (2.6)	6 (0.7)	196 (6.1)	4 (0.8)	193 (6.5)
Asian/Pacific Islander	65 (3.5)	228 (3.3)	24 (2.7)	239 (2.7)	8 (1.9)	245 (8.8)	4 (0.9)	219 (7.9)
American Indian	69 (4.3)	208 (3.6)	19 (4.5)	213 (8.0)	6 (2.1)	205 (8.9)	6 (1.5)	220 (9.0)
Male	64 (1.1)	218 (0.9)	23 (0.9)	226 (1.5)	7 (0.5)	221 (2.3)	5 (0.6)	218 (3.5)
Female	67 (1.1)	215 (1.1)	23 (0.8)	224 (1.5)	6 (0.6)	222 (2.4)	3 (0.3)	204 (4.9)
Grade 8								
Nation	26 (0.8)	261 (1.2)	34 (0.9)	270 (1.2)	27 (0.6)	271 (1.3)	13 (0.6)	270 (1.6)
White	22 (0.8)	275 (1.5)	34 (1.2)	279 (1.2)	30 (0.8)	277 (1.5)	14 (0.7)	277 (1.8)
Black	39 (2.5)	234 (1.8)	33 (1.9)	239 (2.1)	19 (1.3)	241 (2.4)	9 (1.2)	237 (4.6)
Hispanic	35 (2.2)	242 (1.9)	33 (1.6)	248 (1.6)	22 (2.0)	251 (2.5)	10 (1.3)	246 (5.0)
Asian/Pacific Islander	23 (2.6)	282 (8.4)	35 (4.2)	293 (9.6)	27 (3.4)	286 (4.1)	15 (2.4)	290 (5.2)
American Indian	21 (3.8)	257 (6.0)	40 (3.7)	258 (4.2)	20 (2.9)	244 (5.2)	19 (3.0)	254 (6.6)
Male	26 (0.9)	263 (1.7)	31 (1.0)	269 (1.6)	27 (0.6)	270 (1.5)	16 (0.6)	269 (2.0)
Female	26 (1.0)	259 (1.4)	37 (1.2)	271 (1.5)	27 (1.1)	271 (1.9)	10 (0.7)	272 (2.6)
Grade 12								
Nation	9 (0.5)	292 (1.7)	25 (0.7)	298 (1.3)	36 (0.7)	300 (1.0)	31 (0.9)	300 (1.2)
White	6 (0.4)	305 (2.5)	23 (0.7)	307 (1.5)	37 (0.8)	306 (1.0)	34 (1.0)	303 (1.3)
Black	15 (1.4)	275 (3.2)	27 (1.9)	275 (2.3)	36 (2.2)	273 (2.3)	22 (1.7)	278 (3.1)
Hispanic	16 (3.3)	274 (6.0)	34 (2.3)	279 (3.3)	30 (1.8)	290 (2.4)	19 (4.1)	287 (3.6)
Asian/Pacific Islander	15 (2.2)	304 (4.9)	24 (3.1)	317 (6.7)	31 (3.1)	313 (5.1)	30 (3.9)	324 (3.9)
American Indian	11 (7.7)	267(16.3)	29 (6.8)	283(10.0)	28 (9.5)	293 (6.7)	32 (6.6)	276(18.5)
Male	9 (0.7)	295 (2.3)	23 (1.0)	300 (1.9)	33 (1.0)	302 (1.4)	35 (1.1)	302 (1.5)
Female	8 (0.6)	288 (2.3)	26 (0.9)	297 (1.8)	38 (1.0)	299 (1.1)	27 (1.1)	298 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding.

TABLE 12.8 | Students' Reports on How Important It Was for Them to Perform Well on the NAEP Mathematics Test

PUBLIC SCHOOLS	Grade 4 - 1992							
	Very Important		Important		Somewhat Important		Not Important	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	67 (1.0)	216 (0.9)	22 (0.7)	224 (1.2)	7 (0.4)	221 (2.2)	4 (0.4)	212 (3.4)
Northeast	61 (2.1)	221 (2.8)	25 (1.3)	228 (3.2)	7 (1.6)	230 (4.3)!	6 (1.2)	*** (***)
Southeast	70 (2.0)	207 (2.1)	19 (1.4)	217 (3.2)	6 (0.5)	209 (4.1)	5 (0.7)	201 (5.5)
Central	68 (1.3)	220 (2.5)	24 (1.7)	228 (1.9)	6 (0.7)	227 (4.1)	2 (0.5)	*** (***)
West	67 (2.5)	216 (1.5)	22 (1.5)	223 (2.0)	8 (0.7)	217 (4.0)	4 (0.8)	*** (***)
STATES								
Alabama	77 (1.0)	206 (1.6)	16 (0.7)	212 (2.4)	4 (0.4)	210 (4.9)	3 (0.4)	196 (5.0)
Arizona	63 (1.2)	214 (1.1)	25 (1.0)	215 (2.2)	8 (0.5)	212 (2.5)	4 (0.4)	208 (3.3)
Arkansas	76 (1.1)	209 (0.9)	16 (0.9)	213 (2.3)	5 (0.4)	207 (3.7)	3 (0.3)	198 (3.8)
California	64 (1.3)	207 (1.6)	23 (0.8)	212 (2.4)	8 (0.6)	206 (3.3)	5 (0.5)	198 (4.0)
Colorado	64 (1.1)	219 (1.1)	24 (0.8)	222 (1.4)	8 (0.6)	224 (2.4)	4 (0.4)	214 (3.4)
Connecticut	60 (1.5)	223 (1.4)	26 (1.0)	232 (1.4)	9 (0.7)	236 (2.4)	5 (0.5)	221 (3.6)
Delaware	66 (1.0)	215 (1.1)	22 (1.0)	222 (1.8)	7 (0.7)	224 (3.3)	5 (0.6)	207 (6.0)
Dist. Columbia	80 (0.9)	191 (0.7)	13 (0.8)	198 (2.3)	4 (0.4)	185 (3.7)	3 (0.3)	191 (4.4)
Florida	70 (1.1)	212 (1.7)	20 (0.9)	215 (2.0)	6 (0.5)	219 (3.7)	4 (0.5)	203 (4.4)
Georgia	71 (1.3)	213 (1.3)	20 (0.9)	222 (1.7)	6 (0.5)	217 (3.5)	4 (0.5)	216 (5.0)
Hawaii	72 (1.2)	214 (1.4)	21 (1.0)	214 (2.1)	5 (0.4)	203 (4.0)	3 (0.3)	196 (4.6)
Idaho	66 (0.9)	220 (1.0)	23 (0.8)	223 (1.8)	8 (0.6)	219 (2.9)	3 (0.4)	215 (4.5)
Indiana	69 (1.1)	218 (1.2)	22 (0.8)	225 (1.5)	7 (0.5)	223 (2.8)	3 (0.3)	211 (3.8)
Iowa	68 (1.3)	228 (1.0)	23 (1.0)	233 (1.5)	6 (0.5)	228 (2.9)	3 (0.4)	220 (5.1)
Kentucky	74 (1.1)	213 (1.0)	18 (0.8)	217 (2.2)	5 (0.5)	215 (2.9)	3 (0.4)	207 (4.5)
Louisiana	78 (1.1)	204 (1.3)	15 (0.8)	207 (2.0)	5 (0.5)	197 (4.5)	3 (0.3)	191 (5.1)
Maine	62 (1.3)	230 (1.2)	26 (1.1)	235 (1.5)	8 (0.8)	229 (2.4)	4 (0.4)	222 (5.0)
Maryland	65 (1.3)	213 (1.3)	24 (0.9)	225 (1.7)	8 (0.6)	221 (3.3)	3 (0.4)	213 (5.5)
Massachusetts	63 (1.5)	224 (1.3)	25 (1.0)	231 (1.7)	8 (0.6)	230 (2.7)	4 (0.4)	216 (4.7)
Michigan	68 (1.4)	218 (1.5)	22 (1.0)	224 (2.3)	7 (0.7)	217 (3.9)	3 (0.4)	214 (4.2)
Minnesota	62 (1.3)	228 (1.1)	26 (0.9)	231 (1.3)	8 (0.5)	221 (2.5)	4 (0.5)	218 (4.7)
Mississippi	82 (0.9)	201 (1.1)	13 (0.7)	201 (2.6)	3 (0.3)	200 (5.1)	2 (0.3)	*** (***)
Missouri	71 (1.2)	221 (1.3)	20 (0.9)	225 (2.0)	7 (0.6)	222 (3.3)	3 (0.4)	211 (3.6)
Nebraska	65 (1.2)	224 (1.4)	27 (1.0)	226 (1.7)	6 (0.6)	224 (2.8)	2 (0.3)	*** (***)
New Hampshire	57 (1.2)	228 (1.2)	28 (1.1)	232 (1.5)	11 (0.8)	228 (2.6)	5 (0.6)	219 (3.9)
New Jersey	61 (1.5)	223 (1.8)	24 (1.0)	233 (1.5)	8 (0.7)	232 (3.0)	6 (0.6)	225 (3.3)
New Mexico	70 (1.5)	212 (1.3)	20 (1.3)	214 (2.6)	6 (0.6)	216 (4.1)	4 (0.5)	203 (4.1)
New York	62 (1.5)	216 (1.4)	23 (1.1)	223 (1.5)	8 (0.7)	222 (2.3)	6 (0.6)	215 (3.1)
North Carolina	71 (1.3)	211 (1.2)	19 (0.9)	216 (1.9)	6 (0.5)	219 (3.1)	4 (0.5)	201 (3.7)
North Dakota	63 (1.3)	227 (0.9)	27 (1.0)	229 (1.6)	7 (0.6)	228 (2.6)	3 (0.6)	*** (***)
Ohio	68 (1.2)	216 (1.3)	21 (1.0)	223 (1.9)	6 (0.5)	220 (2.8)	4 (0.5)	212 (3.3)
Oklahoma	73 (1.1)	218 (1.0)	18 (0.8)	222 (1.9)	5 (0.5)	224 (2.8)	3 (0.5)	213 (5.1)
Pennsylvania	63 (1.4)	222 (1.5)	27 (1.1)	227 (1.5)	6 (0.7)	225 (3.7)	3 (0.4)	215 (3.9)
Rhode Island	62 (1.1)	212 (1.7)	24 (0.9)	219 (1.8)	10 (0.7)	222 (2.5)	4 (0.5)	211 (4.7)
South Carolina	76 (1.2)	210 (1.1)	16 (0.8)	218 (2.0)	4 (0.5)	210 (3.4)	3 (0.4)	206 (4.3)
Tennessee	75 (1.1)	209 (1.4)	18 (0.8)	212 (2.1)	5 (0.5)	213 (3.7)	2 (0.3)	205 (4.8)
Texas	76 (1.2)	217 (1.3)	17 (0.9)	222 (2.5)	4 (0.4)	211 (4.0)	3 (0.4)	206 (4.4)
Utah	66 (1.4)	223 (1.0)	24 (1.0)	226 (1.5)	7 (0.6)	218 (2.5)	3 (0.4)	218 (3.7)
Virginia	69 (1.1)	218 (1.3)	20 (0.9)	226 (1.9)	7 (0.6)	223 (3.9)	4 (0.4)	216 (4.2)
West Virginia	71 (1.1)	214 (1.1)	21 (0.9)	216 (1.5)	6 (0.4)	216 (2.8)	3 (0.4)	203 (4.3)
Wisconsin	63 (1.3)	227 (1.1)	26 (0.9)	230 (1.7)	9 (0.7)	230 (2.8)	3 (0.4)	219 (4.2)
Wyoming	69 (1.1)	225 (1.0)	22 (1.0)	225 (1.5)	6 (0.4)	225 (3.2)	3 (0.4)	214 (3.5)
TERRITORY								
Guam	69 (0.9)	194 (0.9)	20 (0.8)	192 (2.2)	6 (0.5)	169 (3.9)	5 (0.6)	175 (3.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

TABLE 12.8 | Students' Reports on How Important It Was For Them to Perform Well on the NAEP Mathematics Test (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Very Important		Important		Somewhat Important		Not Important	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	26 (0.8)	259 (1.3)	34 (1.0)	269 (1.3)	27 (0.7)	269 (1.5)	13 (0.6)	269 (1.8)
Northeast	25 (1.3)	262 (3.9)	34 (2.0)	269 (4.0)	28 (1.6)	270 (5.0)	13 (1.4)	264 (4.5)
Southeast	30 (2.0)	251 (1.8)	32 (1.8)	261 (2.0)	25 (1.5)	263 (1.9)	13 (1.0)	259 (2.7)
Central	24 (1.6)	267 (3.0)	34 (2.1)	275 (2.2)	28 (1.2)	275 (2.5)	14 (1.6)	277 (5.0)
West	26 (1.5)	260 (2.7)	36 (1.9)	269 (2.6)	25 (1.1)	268 (2.0)	13 (1.0)	274 (2.8)
STATES								
Alabama	39 (1.5)	247 (2.4)	31 (0.8)	254 (1.8)	23 (1.0)	253 (2.3)	7 (0.7)	257 (2.7)
Arizona	26 (1.2)	262 (1.8)	37 (1.1)	266 (1.8)	27 (1.1)	266 (1.5)	10 (0.7)	265 (2.4)
Arkansas	35 (1.3)	251 (1.5)	35 (1.2)	256 (1.5)	21 (1.1)	262 (1.9)	9 (0.7)	258 (2.6)
California	29 (1.6)	256 (2.6)	36 (1.0)	260 (2.0)	25 (1.2)	266 (2.0)	10 (0.8)	262 (3.2)
Colorado	27 (1.1)	269 (1.7)	39 (0.9)	272 (1.4)	24 (0.8)	274 (1.5)	10 (0.9)	272 (2.4)
Connecticut	24 (1.2)	266 (2.4)	34 (1.0)	274 (1.7)	28 (1.0)	277 (1.5)	13 (0.8)	280 (2.1)
Delaware	26 (1.2)	256 (2.2)	34 (1.0)	264 (1.5)	27 (1.0)	268 (2.0)	12 (0.8)	262 (3.3)
Dist. Columbia	47 (1.4)	231 (1.5)	31 (1.0)	234 (1.7)	17 (1.2)	240 (2.2)	5 (0.7)	253 (7.9)
Florida	30 (1.1)	254 (2.1)	35 (1.0)	261 (2.1)	25 (1.0)	262 (1.8)	10 (0.7)	262 (3.4)
Georgia	42 (1.2)	252 (1.6)	34 (0.9)	263 (1.2)	19 (0.8)	264 (2.2)	6 (0.5)	264 (3.4)
Hawaii	28 (0.9)	254 (1.5)	35 (1.0)	259 (1.3)	26 (1.1)	259 (1.5)	11 (0.8)	257 (2.4)
Idaho	28 (1.1)	275 (1.4)	37 (1.0)	274 (1.0)	25 (0.9)	275 (1.1)	10 (0.7)	273 (2.3)
Indiana	29 (1.2)	268 (1.8)	36 (1.2)	271 (1.5)	25 (1.0)	269 (1.7)	9 (0.7)	269 (3.3)
Iowa	28 (1.1)	283 (1.5)	39 (1.0)	283 (1.1)	24 (1.0)	284 (1.4)	8 (0.6)	280 (2.9)
Kentucky	37 (1.2)	259 (1.4)	36 (0.8)	263 (1.5)	20 (0.8)	264 (1.9)	7 (0.6)	260 (3.0)
Louisiana	46 (1.4)	245 (1.6)	29 (1.1)	250 (2.1)	19 (1.1)	256 (2.6)	6 (0.7)	250 (3.1)
Maine	24 (0.8)	277 (1.6)	35 (1.2)	280 (1.3)	27 (1.1)	278 (1.6)	14 (0.9)	274 (2.2)
Maryland	29 (1.3)	257 (2.2)	37 (1.1)	266 (1.7)	25 (1.1)	267 (1.8)	10 (0.9)	274 (2.8)
Massachusetts	24 (1.3)	266 (1.5)	36 (1.1)	272 (1.5)	28 (0.9)	276 (1.7)	12 (1.0)	276 (2.9)
Michigan	32 (1.5)	261 (1.8)	37 (0.8)	268 (1.8)	23 (1.1)	271 (1.9)	8 (0.6)	271 (3.5)
Minnesota	22 (1.4)	283 (1.8)	36 (1.1)	283 (1.4)	31 (1.2)	281 (1.5)	11 (0.8)	283 (2.5)
Mississippi	50 (1.7)	241 (1.4)	31 (1.0)	248 (2.0)	15 (1.3)	253 (2.1)	4 (0.5)	254 (4.5)
Missouri	33 (1.6)	268 (2.0)	37 (0.9)	272 (1.3)	22 (1.0)	273 (1.8)	8 (0.7)	270 (2.5)
Nebraska	26 (1.1)	278 (1.8)	38 (1.3)	277 (1.5)	27 (0.9)	278 (1.6)	10 (0.6)	272 (2.4)
New Hampshire	21 (1.2)	276 (1.7)	32 (1.1)	278 (1.1)	31 (0.9)	278 (1.4)	16 (0.8)	277 (1.7)
New Jersey	28 (1.4)	263 (2.2)	37 (1.4)	275 (1.6)	25 (1.1)	273 (2.0)	10 (1.0)	280 (2.5)
New Mexico	28 (1.2)	257 (1.6)	35 (1.1)	258 (1.2)	26 (0.9)	260 (1.5)	10 (0.7)	262 (2.6)
New York	24 (1.5)	260 (3.1)	34 (1.1)	268 (2.3)	29 (0.9)	269 (2.0)	12 (0.9)	266 (3.7)
North Carolina	34 (1.4)	252 (1.7)	35 (1.1)	261 (1.7)	22 (0.9)	260 (1.8)	8 (0.6)	260 (3.4)
North Dakota	26 (1.2)	284 (1.6)	38 (1.1)	284 (1.7)	27 (1.0)	281 (1.5)	8 (0.8)	277 (2.9)
Ohio	33 (1.1)	265 (1.9)	37 (1.4)	269 (1.8)	22 (1.2)	270 (1.9)	8 (0.7)	273 (3.2)
Oklahoma	32 (1.5)	264 (1.5)	38 (1.3)	270 (1.5)	23 (1.2)	269 (1.6)	7 (0.6)	264 (3.6)
Pennsylvania	26 (1.4)	266 (2.0)	36 (1.1)	275 (1.5)	26 (1.0)	272 (1.9)	11 (0.9)	266 (3.2)
Rhode Island	22 (1.0)	258 (1.6)	36 (0.9)	267 (1.3)	27 (1.0)	269 (1.5)	15 (0.9)	266 (2.1)
South Carolina	43 (1.3)	254 (1.3)	31 (1.1)	263 (1.6)	20 (1.0)	266 (1.7)	6 (0.6)	266 (2.9)
Tennessee	35 (1.2)	256 (1.9)	37 (0.8)	259 (1.7)	22 (1.1)	262 (2.3)	7 (0.6)	255 (3.0)
Texas	36 (1.4)	260 (1.5)	36 (1.1)	266 (1.9)	20 (1.1)	268 (2.2)	7 (0.6)	267 (3.4)
Utah	27 (1.2)	272 (1.3)	39 (1.0)	274 (1.1)	25 (1.1)	274 (1.3)	8 (0.6)	277 (2.2)
Virginia	32 (1.2)	264 (1.7)	35 (1.0)	269 (1.6)	24 (1.0)	268 (1.5)	9 (0.6)	271 (2.5)
West Virginia	31 (1.3)	258 (1.4)	36 (0.9)	259 (1.2)	25 (1.1)	259 (1.4)	9 (0.6)	254 (2.6)
Wisconsin	24 (1.0)	276 (2.2)	39 (1.0)	276 (1.7)	27 (1.0)	280 (1.8)	11 (0.7)	278 (2.4)
Wyoming	26 (1.2)	274 (1.6)	37 (1.1)	277 (1.3)	26 (0.9)	274 (1.1)	11 (0.8)	269 (2.2)
TERRITORIES								
Guam	49 (1.5)	232 (1.5)	31 (1.4)	239 (1.9)	15 (0.9)	239 (3.1)	4 (0.5)	225 (6.2)
Virgin Islands	46 (1.2)	222 (1.3)	32 (1.3)	221 (1.8)	15 (1.0)	227 (2.7)	7 (0.6)	217 (3.7)

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TABLE 12.9 Students' Reports on Their Mathematics Test Experience in Providing Detailed Solutions to Mathematics Problems Not Worked on Previously, Grades 4, 8, and 12

	At Least Once a Week		Once or Twice a Month		Once or Twice this Year		Never	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4								
Nation	27 (0.9)	209 (1.0)	35 (0.8)	220 (1.0)	21 (0.6)	225 (1.3)	16 (0.5)	224 (1.2)
White	23 (1.0)	218 (1.4)	37 (1.0)	227 (1.1)	23 (0.8)	234 (1.5)	17 (0.6)	231 (1.4)
Black	38 (2.4)	191 (1.6)	29 (1.9)	193 (2.3)	18 (1.4)	191 (2.3)	15 (1.3)	194 (3.3)
Hispanic	36 (1.9)	198 (1.8)	32 (2.1)	204 (2.0)	18 (1.3)	201 (3.7)	14 (1.6)	201 (3.5)
Asian/Pacific Islander	25 (2.4)	224 (3.6)	34 (3.5)	237 (3.7)	24 (2.7)	227 (5.2)	17 (2.0)	238 (5.1)
American Indian	35 (4.0)	208 (2.4)	29 (5.5)	207 (7.0)	19 (3.6)	207(10.1)	16 (3.6)	218 (5.1)
Male	29 (1.0)	211 (1.3)	35 (1.1)	222 (1.3)	21 (0.9)	226 (1.8)	15 (0.7)	226 (1.7)
Female	25 (1.1)	207 (1.4)	36 (0.9)	218 (1.3)	22 (1.0)	224 (1.7)	18 (0.9)	222 (1.6)
Grade 8								
Nation	19 (0.6)	254 (1.2)	27 (0.8)	265 (1.3)	25 (0.5)	274 (1.2)	29 (0.8)	274 (1.3)
White	15 (0.7)	266 (1.7)	26 (1.0)	275 (1.5)	28 (0.6)	281 (1.3)	31 (0.9)	281 (1.3)
Black	32 (1.6)	233 (2.3)	30 (1.5)	236 (2.6)	18 (1.4)	242 (2.4)	21 (1.5)	241 (3.0)
Hispanic	28 (1.5)	241 (2.4)	27 (1.8)	248 (2.2)	21 (1.3)	251 (2.7)	24 (1.7)	248 (2.7)
Asian/Pacific Islander	19 (3.5)	273 (5.6)	30 (3.3)	282 (7.4)	26 (4.8)	300 (7.4)	25 (3.4)	294 (5.4)
American Indian	31 (3.5)	251 (6.5)	24 (3.5)	253 (5.3)	19 (2.6)	251 (6.1)	26 (3.6)	262 (6.0)
Male	21 (0.8)	255 (1.5)	28 (1.0)	266 (1.7)	24 (0.6)	274 (1.5)	27 (1.0)	274 (1.7)
Female	16 (0.8)	252 (1.7)	26 (1.0)	264 (1.6)	27 (0.8)	275 (1.7)	31 (1.0)	274 (1.3)
Grade 12								
Nation	11 (0.4)	296 (1.6)	17 (0.7)	306 (1.7)	20 (0.6)	302 (1.6)	51 (0.8)	296 (1.0)
White	9 (0.5)	309 (2.3)	16 (0.8)	314 (1.9)	20 (0.8)	309 (1.5)	55 (0.9)	300 (1.0)
Black	19 (1.2)	276 (2.5)	17 (1.3)	277 (2.7)	20 (1.4)	276 (3.0)	43 (1.9)	273 (2.3)
Hispanic	14 (1.7)	276 (3.2)	16 (2.9)	284 (5.5)	22 (1.9)	283 (3.4)	48 (2.8)	285 (2.0)
Asian/Pacific Islander	18 (2.9)	310 (6.2)	28 (3.1)	314 (4.0)	24 (2.8)	322 (5.2)	30 (4.0)	315 (5.8)
American Indian	14(12.3)	283(10.7)	9 (4.4)	279(32.8)	29 (8.7)	302(14.4)	47(10.3)	271(11.6)
Male	13 (0.6)	300 (2.2)	19 (0.9)	306 (2.3)	21 (0.9)	304 (2.2)	47 (1.2)	298 (1.1)
Female	9 (0.6)	292 (2.2)	15 (0.8)	306 (2.1)	20 (0.9)	301 (1.6)	55 (1.1)	294 (1.2)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 12.10 | Students' Reports on How Often They Take Mathematics Tests Requiring Detailed Solutions to Mathematics Problems They Had Not Worked on Previously

PUBLIC SCHOOLS	Grade 4 - 1992							
	At Least Once a Week		Once or Twice a Month		Once or Twice a Year		Never	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	27 (1.0)	208 (1.2)	35 (0.8)	219 (1.1)	22 (0.7)	224 (1.4)	16 (0.6)	222 (1.4)
Northeast	24 (2.2)	215 (3.3)	38 (2.1)	222 (2.4)	23 (1.6)	231 (3.6)	15 (1.1)	228 (2.8)
Southeast	33 (1.9)	201 (2.0)	32 (1.8)	212 (2.0)	18 (1.3)	217 (3.6)	17 (1.0)	212 (2.5)
Central	24 (1.8)	213 (2.4)	35 (1.5)	224 (2.8)	22 (1.6)	227 (2.3)	19 (1.6)	226 (3.4)
West	27 (2.0)	208 (2.4)	35 (1.5)	219 (2.1)	24 (1.2)	222 (2.7)	13 (0.7)	222 (3.1)
STATES								
Alabama	34 (1.2)	198 (1.6)	29 (1.3)	209 (2.2)	17 (0.9)	214 (2.3)	20 (1.1)	214 (2.3)
Arizona	30 (1.2)	208 (1.7)	32 (1.0)	216 (1.4)	24 (1.0)	217 (1.5)	14 (0.8)	217 (1.9)
Arkansas	29 (1.0)	201 (1.3)	30 (0.9)	211 (1.2)	20 (0.8)	210 (1.8)	20 (1.0)	216 (2.1)
California	31 (1.4)	200 (1.6)	36 (1.2)	211 (2.1)	20 (1.0)	211 (2.9)	13 (0.8)	214 (2.7)
Colorado	27 (1.0)	213 (1.1)	34 (1.1)	221 (1.4)	24 (0.9)	225 (1.5)	14 (0.9)	224 (1.8)
Connecticut	20 (1.0)	215 (1.6)	39 (1.3)	227 (1.3)	25 (1.1)	233 (1.6)	16 (0.8)	230 (2.5)
Delaware	27 (1.0)	206 (1.2)	37 (1.3)	218 (1.1)	18 (0.9)	226 (2.3)	18 (1.0)	222 (1.8)
Dist. Columbia	40 (0.9)	186 (0.9)	27 (0.9)	193 (1.3)	19 (0.8)	197 (1.8)	14 (0.7)	198 (2.0)
Florida	31 (1.4)	203 (1.6)	33 (0.9)	213 (1.4)	17 (1.0)	218 (3.2)	19 (0.9)	222 (2.1)
Georgia	26 (0.9)	202 (1.8)	36 (1.4)	215 (1.6)	20 (0.9)	223 (1.9)	19 (1.2)	224 (2.4)
Hawaii	33 (1.2)	206 (1.5)	35 (1.2)	218 (1.8)	19 (0.7)	214 (2.1)	13 (0.9)	216 (2.8)
Idaho	23 (1.2)	214 (1.3)	38 (1.3)	222 (1.3)	21 (1.0)	223 (1.7)	18 (1.0)	223 (1.6)
Indiana	25 (0.9)	210 (1.5)	37 (0.9)	220 (1.4)	18 (0.7)	226 (1.9)	19 (1.0)	226 (1.5)
Iowa	20 (0.9)	220 (1.7)	42 (1.2)	228 (1.2)	21 (0.8)	236 (1.7)	17 (0.9)	235 (2.0)
Kentucky	27 (1.1)	204 (1.3)	36 (1.0)	215 (1.4)	19 (0.9)	220 (1.9)	17 (0.8)	220 (1.6)
Louisiana	44 (1.3)	198 (1.4)	22 (1.1)	206 (2.1)	15 (0.7)	206 (2.0)	19 (1.0)	211 (2.2)
Maine	22 (1.0)	224 (1.5)	41 (1.3)	232 (1.5)	28 (1.1)	237 (1.4)	10 (0.8)	226 (2.3)
Maryland	27 (1.2)	206 (1.6)	38 (1.1)	221 (1.5)	21 (0.8)	221 (2.4)	14 (0.7)	223 (2.6)
Massachusetts	24 (1.3)	216 (1.9)	33 (1.4)	226 (1.5)	22 (1.1)	230 (1.8)	20 (1.2)	233 (2.0)
Michigan	25 (1.3)	206 (1.9)	35 (1.1)	223 (1.6)	25 (1.0)	226 (2.3)	15 (0.9)	223 (2.5)
Minnesota	18 (1.1)	215 (1.9)	43 (1.2)	229 (1.1)	23 (0.9)	232 (1.6)	16 (0.8)	235 (1.8)
Mississippi	40 (1.0)	197 (1.2)	24 (0.9)	203 (1.6)	17 (0.6)	199 (2.1)	18 (0.9)	207 (1.8)
Missouri	22 (1.1)	210 (1.7)	35 (1.1)	221 (1.6)	21 (0.9)	226 (1.8)	22 (1.0)	229 (2.0)
Nebraska	19 (1.2)	214 (2.1)	41 (1.1)	224 (1.2)	24 (0.9)	230 (1.9)	17 (0.8)	230 (2.2)
New Hampshire	21 (1.0)	222 (1.3)	38 (1.5)	227 (1.4)	21 (1.1)	233 (2.1)	20 (1.0)	235 (1.6)
New Jersey	24 (1.2)	213 (2.1)	36 (1.2)	229 (1.7)	18 (0.9)	230 (2.8)	22 (1.0)	234 (1.9)
New Mexico	30 (1.3)	205 (1.6)	29 (1.1)	216 (2.6)	21 (1.0)	214 (1.9)	20 (1.1)	216 (1.9)
New York	27 (1.4)	209 (1.7)	36 (1.4)	220 (1.4)	19 (1.2)	221 (2.7)	18 (0.9)	227 (1.9)
North Carolina	31 (1.2)	203 (1.4)	33 (1.2)	214 (1.2)	18 (0.9)	218 (2.1)	18 (0.9)	217 (2.1)
North Dakota	15 (1.1)	215 (1.6)	39 (1.4)	227 (0.9)	25 (1.2)	233 (1.3)	21 (1.2)	233 (1.5)
Ohio	26 (1.0)	206 (1.6)	37 (1.0)	217 (1.4)	20 (1.0)	224 (2.0)	17 (0.8)	226 (1.7)
Oklahoma	26 (1.2)	212 (1.2)	34 (1.3)	221 (1.5)	19 (0.9)	222 (1.9)	21 (1.1)	222 (1.5)
Pennsylvania	26 (1.2)	212 (1.6)	36 (1.2)	225 (1.5)	19 (0.9)	227 (2.1)	19 (0.9)	232 (1.8)
Rhode Island	24 (1.1)	202 (1.6)	35 (1.4)	218 (1.9)	20 (1.0)	216 (2.2)	21 (0.9)	222 (2.7)
South Carolina	33 (1.1)	204 (1.2)	30 (1.2)	213 (1.5)	17 (0.8)	211 (2.1)	19 (1.1)	221 (2.3)
Tennessee	33 (1.1)	200 (1.7)	31 (1.1)	211 (1.7)	18 (0.9)	217 (2.2)	18 (0.8)	218 (1.9)
Texas	32 (1.2)	211 (1.8)	31 (1.4)	221 (1.5)	19 (1.2)	220 (2.3)	18 (1.0)	219 (1.9)
Utah	20 (1.1)	216 (1.5)	39 (1.4)	223 (1.2)	25 (1.0)	227 (1.4)	16 (0.8)	226 (2.0)
Virginia	26 (1.1)	208 (1.5)	34 (1.1)	220 (1.6)	21 (0.8)	228 (1.8)	19 (0.9)	229 (1.8)
West Virginia	25 (1.0)	205 (1.3)	34 (1.2)	212 (1.3)	23 (0.8)	222 (1.6)	18 (0.8)	220 (2.1)
Wisconsin	19 (0.8)	219 (1.9)	43 (1.0)	228 (1.4)	23 (0.9)	233 (1.6)	16 (0.8)	231 (1.9)
Wyoming	21 (1.0)	218 (1.2)	38 (1.3)	224 (1.3)	23 (0.9)	228 (1.7)	18 (0.9)	226 (1.5)
TERRITORY								
Guam	35 (1.1)	191 (1.5)	28 (1.1)	194 (1.7)	22 (0.9)	185 (1.7)	15 (0.9)	197 (2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 12.10 | Students' Reports on How Often They Take Mathematics Tests Requiring Detailed Solutions to Mathematics Problems They Had Not Worked on Previously (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	At Least Once a Week		Once or Twice a Month		Once or Twice a Year		Never	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	19 (0.7)	252 (1.2)	27 (0.9)	264 (1.4)	25 (0.6)	273 (1.4)	28 (0.8)	273 (1.4)
Northeast	17 (1.9)	253 (4.4)	29 (2.0)	262 (2.9)	25 (1.1)	275 (3.4)	29 (1.9)	274 (4.3)
Southeast	22 (1.6)	247 (2.0)	26 (2.4)	259 (1.8)	24 (1.0)	264 (2.1)	27 (2.1)	263 (2.4)
Central	17 (1.5)	258 (2.8)	30 (1.5)	269 (3.7)	24 (1.1)	280 (2.1)	29 (0.9)	281 (1.7)
West	20 (0.8)	253 (1.8)	26 (1.2)	265 (2.8)	25 (1.1)	273 (2.7)	29 (1.4)	273 (2.9)
STATES								
Alabama	25 (1.0)	238 (2.2)	21 (1.0)	248 (2.4)	22 (1.0)	258 (1.8)	32 (1.2)	259 (1.9)
Arizona	17 (1.1)	252 (2.2)	27 (1.3)	264 (2.0)	26 (1.1)	270 (1.3)	29 (1.2)	268 (1.6)
Arkansas	20 (1.1)	241 (2.5)	21 (0.9)	253 (1.6)	25 (0.8)	262 (1.9)	33 (1.2)	261 (1.6)
California	20 (1.0)	246 (2.2)	30 (1.1)	256 (2.3)	26 (0.7)	270 (2.0)	24 (1.1)	268 (2.0)
Colorado	17 (0.8)	264 (1.9)	31 (1.1)	268 (1.8)	27 (0.9)	276 (1.5)	25 (1.0)	277 (1.5)
Connecticut	15 (1.0)	258 (2.4)	28 (1.1)	272 (1.9)	28 (1.1)	280 (1.3)	29 (1.0)	277 (1.6)
Delaware	20 (0.8)	251 (1.6)	29 (1.0)	260 (1.8)	23 (0.9)	268 (1.8)	28 (1.2)	269 (1.8)
Dist. Columbia	30 (1.1)	230 (1.8)	31 (1.1)	232 (1.8)	21 (1.1)	238 (2.3)	18 (0.8)	241 (2.5)
Florida	22 (1.0)	249 (2.3)	23 (0.9)	255 (1.8)	24 (0.8)	265 (1.9)	31 (0.9)	266 (1.8)
Georgia	21 (1.1)	249 (1.7)	24 (1.1)	254 (1.7)	25 (1.0)	264 (1.8)	30 (1.2)	265 (1.7)
Hawaii	25 (1.0)	248 (1.6)	35 (1.1)	258 (1.4)	21 (0.9)	263 (2.0)	19 (0.9)	262 (2.1)
Idaho	14 (0.6)	263 (1.6)	26 (0.9)	273 (1.5)	27 (0.9)	277 (1.1)	33 (1.1)	279 (1.3)
Indiana	14 (1.2)	255 (1.8)	25 (0.8)	268 (1.5)	28 (1.1)	275 (1.7)	33 (1.4)	272 (1.7)
Iowa	13 (1.3)	273 (2.8)	26 (1.2)	279 (1.8)	30 (1.2)	286 (1.2)	31 (1.3)	287 (1.4)
Kentucky	17 (0.9)	249 (2.0)	29 (1.1)	258 (1.8)	28 (0.9)	268 (1.5)	26 (1.1)	266 (1.7)
Louisiana	28 (1.2)	237 (1.9)	21 (0.8)	248 (2.2)	20 (1.0)	258 (2.4)	31 (1.2)	255 (1.9)
Maine	15 (1.0)	271 (1.8)	31 (0.9)	275 (1.4)	34 (1.1)	284 (1.3)	21 (1.0)	279 (1.8)
Maryland	17 (1.0)	250 (2.4)	29 (1.0)	260 (1.8)	31 (0.9)	272 (1.8)	23 (1.0)	271 (1.7)
Massachusetts	17 (0.9)	258 (2.0)	24 (0.9)	268 (1.7)	25 (1.0)	279 (1.6)	35 (1.2)	277 (1.4)
Michigan	20 (1.1)	252 (2.2)	27 (1.0)	264 (1.8)	25 (0.9)	274 (1.8)	28 (1.2)	274 (2.2)
Minnesota	14 (0.9)	274 (2.1)	30 (1.3)	278 (1.6)	29 (1.1)	286 (1.2)	27 (1.2)	287 (1.5)
Mississippi	23 (1.2)	233 (2.0)	19 (0.9)	242 (2.0)	22 (0.9)	252 (1.7)	35 (1.4)	252 (1.4)
Missouri	15 (0.9)	256 (1.8)	28 (1.1)	264 (1.8)	27 (0.9)	278 (1.6)	30 (1.2)	277 (1.5)
Nebraska	13 (0.9)	261 (2.0)	27 (1.6)	270 (1.9)	31 (0.9)	283 (1.4)	30 (1.1)	284 (1.6)
New Hampshire	13 (1.1)	268 (1.7)	27 (0.9)	275 (1.4)	29 (1.3)	282 (1.5)	31 (1.0)	280 (1.5)
New Jersey	15 (1.0)	255 (2.8)	29 (1.2)	269 (2.3)	28 (1.1)	279 (1.9)	27 (1.2)	275 (1.7)
New Mexico	20 (1.0)	249 (2.0)	25 (0.9)	253 (1.3)	26 (0.9)	267 (1.7)	29 (1.1)	263 (1.5)
New York	19 (1.4)	253 (3.8)	27 (1.4)	263 (2.9)	26 (1.2)	272 (2.1)	28 (1.2)	273 (2.4)
North Carolina	20 (0.9)	244 (2.1)	26 (0.9)	254 (1.9)	27 (1.0)	263 (1.7)	27 (1.0)	267 (1.7)
North Dakota	12 (0.9)	274 (2.4)	24 (1.4)	276 (1.7)	30 (1.5)	285 (1.4)	34 (1.7)	288 (1.6)
Ohio	16 (1.0)	257 (2.5)	27 (0.9)	263 (1.9)	28 (1.0)	274 (1.8)	29 (1.2)	274 (1.9)
Oklahoma	12 (0.9)	254 (2.3)	21 (1.1)	261 (1.6)	28 (1.1)	271 (1.7)	39 (1.6)	272 (1.6)
Pennsylvania	15 (1.0)	254 (2.2)	24 (0.9)	266 (2.2)	27 (0.9)	278 (1.7)	34 (1.4)	276 (1.6)
Rhode Island	19 (0.9)	252 (1.4)	27 (1.2)	263 (1.9)	24 (1.0)	272 (1.9)	30 (1.2)	270 (1.5)
South Carolina	24 (1.0)	248 (1.4)	24 (1.0)	259 (1.7)	24 (0.9)	267 (1.7)	28 (1.3)	266 (1.6)
Tennessee	19 (1.2)	246 (2.2)	25 (1.0)	256 (1.9)	25 (0.9)	266 (2.0)	30 (1.4)	261 (1.7)
Texas	22 (1.1)	251 (2.2)	26 (1.0)	262 (1.8)	24 (1.1)	269 (1.7)	28 (1.1)	271 (1.7)
Utah	12 (0.9)	262 (2.3)	26 (0.8)	268 (1.3)	30 (0.9)	277 (1.2)	33 (1.0)	280 (1.2)
Virginia	18 (0.9)	255 (1.8)	23 (1.0)	265 (1.7)	27 (0.9)	274 (1.5)	32 (1.1)	270 (1.5)
West Virginia	14 (0.8)	247 (1.8)	25 (1.1)	256 (1.3)	27 (0.9)	262 (1.4)	33 (1.3)	262 (1.4)
Wisconsin	13 (0.9)	269 (5.0)	32 (1.2)	273 (2.6)	31 (1.0)	283 (1.1)	24 (1.4)	280 (1.7)
Wyoming	16 (1.0)	265 (1.4)	27 (1.1)	268 (1.4)	28 (0.9)	280 (1.6)	29 (1.4)	279 (1.3)
TERRITORIES								
Guam	30 (1.2)	228 (2.3)	28 (1.0)	232 (1.7)	21 (1.0)	239 (2.0)	21 (1.1)	243 (2.3)
Virgin Islands	37 (1.3)	218 (1.7)	21 (1.0)	222 (1.9)	20 (1.0)	226 (2.0)	22 (1.1)	225 (2.0)

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CHAPTER THIRTEEN

Achievement by Academic Emphasis in the Home for the Nation and the States

Overview

Chapter Thirteen includes the background questionnaire data related to home support for academic achievement. These questions considered a variety of factors, ranging from the support and encouragement the students received from their parents to the presence of academic influences in the home. To assess the continuity of the students' education, they were asked how many schools they had attended since kindergarten, as well as how many days they had been absent from school in the previous month.

Reading Materials and Homework

TABLE 13.1 Students' Reports of Types of Reading Materials in the Home, †Grades 4, 8, and 12

	Assessment Years	Zero to Two Types		Three Types		Four Types	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	**1992**	30 (1.2)	207 (1.0)>	34 (0.7)	219 (0.9)>	36 (1.1)	228 (1.0)>
	1990	30 (1.4)	202 (1.3)	36 (0.9)	214 (1.5)	34 (1.3)	222 (1.4)
Grade 8	**1992**	20 (0.7)	249 (1.2)	30 (0.7)	266 (1.2)>	50 (0.9)	276 (1.0)
	1990	20 (0.9)	244 (2.0)	30 (1.0)	260 (1.5)	49 (1.2)	272 (1.4)
Grade 12	**1992**	15 (0.7)	284 (1.5)	27 (0.8)	296 (1.1)>	58 (1.0)	304 (0.9)>
	1990	14 (0.9)	278 (2.6)	26 (1.0)	289 (1.6)	60 (1.1)	300 (1.2)

†Students were asked about four types of reading materials in the home, including 25 or more books, magazines, daily newspaper, and encyclopedia.

>The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent. Percentages may not total 100 percent due to rounding error.

TABLE 13.2 | Students' Reports of Types of Reading Materials in the Home

PUBLIC SCHOOLS	Grade 4 - 1992					
	Zero to Two Types		Three Types		Four Types	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	31 (1.3)	206 (1.1)	35 (0.7)	218 (1.0)	34 (1.2)	227 (1.2)
Northeast	26 (2.8)	205 (2.5)	36 (1.9)	224 (2.3)	38 (2.5)	234 (3.2)
Southeast	36 (2.4)	200 (2.2)	35 (1.4)	209 (2.3)	29 (2.2)	219 (2.2)
Central	29 (3.2)	211 (3.1)	35 (1.5)	223 (2.6)	36 (2.7)	230 (1.9)
West	33 (2.4)	208 (1.7)	34 (1.1)	218 (1.9)	32 (2.3)	226 (2.5)
STATES						
Alabama	37 (1.2)	199 (1.6)	34 (1.0)	208 (1.9)	29 (1.2)	216 (2.1)
Arizona	38 (1.3)	205 (1.5)	35 (0.8)	217 (1.3)	28 (1.1)	222 (1.4)
Arkansas	37 (1.1)	201 (1.3)	33 (0.9)	210 (1.3)	30 (1.1)	217 (1.1)
California	40 (1.7)	195 (1.9)	32 (1.0)	211 (1.8)	29 (1.5)	221 (2.1)
Colorado	29 (1.2)	209 (1.4)	34 (1.0)	221 (1.3)	37 (1.1)	228 (1.3)
Connecticut	24 (1.2)	210 (2.1)	35 (1.1)	227 (1.4)	41 (1.3)	235 (1.1)
Delaware	31 (1.0)	204 (1.9)	34 (1.0)	217 (1.1)	35 (0.9)	229 (1.4)
Dist. Columbia	39 (0.9)	185 (1.1)	32 (0.9)	192 (1.2)	29 (0.8)	200 (1.2)
Florida	36 (1.6)	202 (1.6)	35 (0.8)	214 (1.6)	29 (1.4)	223 (1.7)
Georgia	33 (1.0)	205 (1.6)	34 (1.0)	214 (1.6)	33 (1.2)	224 (1.6)
Hawaii	42 (1.5)	205 (1.6)	32 (0.9)	216 (1.5)	26 (1.3)	223 (1.7)
Idaho	31 (1.1)	213 (1.5)	34 (1.0)	222 (1.1)	35 (1.2)	227 (1.1)
Indiana	31 (1.4)	211 (1.3)	34 (0.9)	220 (1.1)	35 (1.4)	228 (1.3)
Iowa	24 (1.2)	217 (1.4)	34 (1.0)	230 (1.4)	42 (1.1)	235 (1.1)
Kentucky	39 (1.4)	205 (1.0)	33 (1.1)	217 (1.4)	28 (1.3)	222 (1.6)
Louisiana	39 (1.4)	195 (1.7)	34 (0.8)	205 (1.7)	27 (1.2)	213 (1.9)
Maine	26 (1.5)	221 (1.5)	38 (1.1)	233 (1.3)	36 (1.6)	236 (1.2)
Maryland	31 (1.1)	204 (1.6)	33 (1.0)	217 (1.8)	36 (1.2)	226 (1.5)
Massachusetts	25 (1.2)	214 (1.9)	34 (1.0)	225 (1.6)	41 (1.4)	233 (1.4)
Michigan	31 (1.5)	206 (2.4)	34 (1.0)	222 (1.8)	35 (1.4)	228 (2.0)
Minnesota	23 (1.3)	216 (1.9)	34 (0.9)	229 (1.2)	43 (1.2)	234 (1.1)
Mississippi	40 (1.3)	192 (1.3)	33 (0.9)	202 (1.4)	27 (1.2)	210 (1.9)
Missouri	32 (1.1)	213 (1.5)	34 (1.2)	222 (1.4)	35 (1.3)	228 (1.6)
Nebraska	26 (1.2)	212 (1.5)	34 (1.0)	225 (1.5)	40 (1.5)	232 (1.5)
New Hampshire	21 (1.1)	219 (1.7)	35 (0.8)	228 (1.4)	45 (1.5)	234 (1.6)
New Jersey	24 (1.5)	213 (2.4)	34 (1.1)	226 (1.7)	42 (1.8)	235 (1.7)
New Mexico	41 (1.7)	204 (1.6)	32 (1.5)	213 (1.7)	27 (1.5)	222 (1.7)
New York	32 (1.2)	204 (1.7)	34 (1.1)	219 (1.6)	34 (1.4)	228 (1.5)
North Carolina	33 (1.1)	201 (1.4)	34 (0.9)	212 (1.3)	33 (1.2)	222 (1.5)
North Dakota	22 (1.1)	218 (1.5)	36 (1.2)	228 (1.3)	42 (1.5)	232 (1.0)
Ohio	32 (1.2)	207 (1.6)	36 (1.0)	218 (1.5)	33 (1.2)	228 (1.4)
Oklahoma	35 (1.4)	213 (1.4)	35 (1.0)	220 (1.3)	30 (1.4)	226 (1.4)
Pennsylvania	26 (1.1)	213 (1.5)	35 (0.8)	223 (1.8)	38 (1.3)	230 (1.7)
Rhode Island	32 (1.4)	201 (2.5)	35 (1.0)	217 (1.8)	32 (1.5)	226 (1.5)
South Carolina	35 (1.2)	202 (1.1)	34 (0.9)	213 (1.6)	31 (1.1)	220 (1.3)
Tennessee	37 (1.4)	199 (1.7)	32 (1.0)	211 (1.8)	31 (1.2)	220 (1.3)
Texas	40 (1.6)	208 (1.3)	32 (1.1)	221 (1.7)	28 (1.1)	227 (1.8)
Utah	25 (1.3)	213 (1.8)	37 (1.1)	223 (1.1)	37 (1.6)	230 (1.2)
Virginia	30 (1.3)	209 (1.5)	34 (0.9)	220 (1.5)	36 (1.4)	229 (1.8)
West Virginia	34 (1.3)	207 (1.1)	33 (0.9)	216 (1.4)	33 (1.1)	220 (1.4)
Wisconsin	25 (1.2)	216 (1.7)	36 (0.8)	229 (1.2)	38 (1.1)	234 (1.2)
Wyoming	29 (1.3)	217 (1.5)	37 (1.1)	225 (1.1)	34 (1.3)	230 (1.1)
TERRITORY						
Guam	56 (1.0)	186 (1.2)	28 (1.1)	197 (1.7)!	16 (0.9)	200 (1.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. Students were asked about four types of reading materials in the home, including 25 or more books, magazines, daily newspaper, and encyclopedia.

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TABLE 13.2 | Students' Reports of Types of Reading Materials in the Home (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Zero to Two Types		Three Types		Four Types	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (0.7)	247 (1.2)	31 (0.7)	266 (1.3)	48 (1.0)	275 (1.1)
Northeast	19 (2.3)	246 (3.6)	32 (1.1)	267 (4.0)	49 (2.6)	276 (3.1)
Southeast	23 (1.1)	243 (2.4)	31 (1.1)	257 (1.8)	45 (1.3)	267 (1.5)
Central	16 (1.3)	253 (2.9)	31 (1.7)	270 (3.3)	54 (2.1)	280 (2.2)
West	25 (1.6)	249 (2.3)	31 (1.6)	269 (2.4)	44 (1.8)	276 (2.1)
STATES						
Alabama	24 (1.2)	237 (2.0)	35 (1.2)	249 (2.1)	40 (1.5)<	262 (1.6)
Arizona	29 (1.1)	250 (2.2)	33 (1.0)	266 (1.3)>	38 (1.4)	275 (1.3)
Arkansas	24 (1.0)	243 (1.7)	32 (1.1)	253 (1.6)	44 (1.2)	264 (1.5)
California	33 (1.4)	241 (2.2)	29 (0.9)	262 (2.0)	38 (1.6)	276 (1.8)>
Colorado	17 (0.9)	252 (1.8)	32 (0.9)	270 (1.4)>	51 (1.1)	280 (1.0)»
Connecticut	18 (0.9)>	250 (2.6)	28 (0.9)	269 (1.4)>	54 (1.1)	283 (1.0)>
Delaware	20 (1.0)	248 (1.9)	32 (1.3)	259 (1.8)	49 (1.4)	270 (1.2)
Dist. Columbia	27 (1.1)	226 (2.1)	35 (1.4)	235 (1.7)>	38 (1.3)	240 (1.4)
Florida	27 (1.1)	245 (1.8)	34 (1.1)	258 (1.7)	38 (1.4)	271 (1.6)
Georgia	22 (1.0)	245 (2.2)	32 (0.9)	256 (1.4)	45 (1.2)	267 (1.6)
Hawaii	32 (1.0)	245 (1.5)>	32 (0.8)	258 (1.5)>	36 (1.0)	266 (1.4)>
Idaho	16 (0.8)	259 (1.8)	33 (0.9)	273 (1.1)	51 (1.0)	280 (1.0)
Indiana	18 (0.9)	252 (1.8)	29 (1.0)	268 (1.4)	53 (1.3)	276 (1.2)
Iowa	12 (0.8)	266 (2.2)	28 (0.9)	280 (1.3)>	60 (1.2)	287 (1.0)>
Kentucky	24 (0.9)	247 (1.6)	31 (1.0)	260 (1.4)»	45 (1.1)	270 (1.4)
Louisiana	24 (1.2)	239 (2.4)	34 (0.9)	250 (1.9)>	42 (1.5)	254 (1.9)
Maine	13 (0.7)	266 (1.8)	29 (1.0)	274 (1.4)	58 (1.4)	283 (1.1)
Maryland	16 (0.9)	247 (2.7)	31 (1.0)	259 (1.8)	52 (1.2)	273 (1.4)
Massachusetts	18 (1.1)	250 (2.2)	26 (0.9)	270 (1.5)	56 (1.2)	281 (1.2)
Michigan	19 (0.9)	249 (1.7)	32 (0.9)	262 (1.5)	49 (1.2)	277 (1.6)>
Minnesota	11 (0.8)	268 (2.3)>	29 (1.1)	280 (1.3)>	59 (1.3)	285 (1.2)>
Mississippi	24 (0.9)	234 (1.9)	33 (0.9)	242 (1.7)	43 (1.1)	254 (1.4)
Missouri	17 (1.1)	253 (1.8)	32 (0.9)	268 (1.6)	51 (1.3)	278 (1.3)
Nebraska	12 (0.8)	258 (2.1)	28 (1.2)	274 (1.6)	60 (1.6)	283 (1.1)
New Hampshire	11 (0.7)	264 (2.2)	31 (0.9)>	274 (1.4)	58 (1.0)	282 (1.0)>
New Jersey	18 (1.0)	250 (2.6)	29 (1.0)	268 (1.8)	53 (1.3)	280 (1.6)
New Mexico	27 (0.9)	248 (1.2)	33 (0.9)	258 (1.2)	39 (1.0)	267 (1.4)
New York	20 (1.4)	244 (4.0)	31 (0.9)	261 (2.2)	49 (1.4)	277 (1.5)>
North Carolina	20 (0.8)	239 (1.9)	30 (0.9)	255 (1.8)»	50 (1.0)>	266 (1.3)>
North Dakota	10 (0.6)	272 (2.4)>	26 (1.3)<	280 (1.7)	64 (1.3)	286 (1.3)
Ohio	18 (1.1)	249 (2.6)	31 (1.0)	265 (2.0)	51 (1.3)	276 (1.6)>
Oklahoma	21 (1.1)	255 (2.0)	32 (1.0)	266 (1.7)>	47 (1.4)	274 (1.3)
Pennsylvania	15 (1.0)	252 (2.0)	29 (0.8)	266 (1.9)	56 (1.2)	278 (1.6)
Rhode Island	22 (0.8)	246 (1.9)>	28 (1.1)	262 (1.8)	51 (1.1)	276 (1.0)>
South Carolina	19 (0.9)	243 (1.7)	33 (1.1)	256 (1.3)	49 (1.3)	269 (1.3)
Tennessee	22 (1.0)	242 (1.5)	32 (0.9)	257 (1.9)	46 (1.2)	266 (1.5)
Texas	30 (1.4)	249 (1.7)	33 (0.9)>	264 (1.6)>	38 (1.1)	276 (1.6)>
Utah	14 (0.8)	259 (1.6)	29 (1.0)	273 (1.2)	57 (1.1)	278 (0.9)
Virginia	19 (1.0)	249 (1.8)	31 (0.9)	264 (1.3)	50 (1.2)	276 (1.4)
West Virginia	22 (1.1)	247 (1.4)	31 (0.9)	255 (1.4)	46 (1.3)	266 (1.0)>
Wisconsin	15 (1.1)	259 (3.5)	30 (1.0)	276 (1.6)	55 (1.6)	283 (1.2)
Wyoming	17 (0.9)>	263 (1.8)	34 (0.9)	273 (1.3)	49 (1.2)<	279 (1.0)
TERRITORIES						
Guam	39 (1.1)	226 (1.5)	35 (1.1)	237 (1.7)	26 (1.0)	246 (2.3)
Virgin Islands	25 (0.9)	218 (1.7)	37 (1.2)	218 (1.5)	39 (1.0)	228 (1.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

TABLE 13.2 | Students' Reports of Types of Reading Materials in the Home (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Zero to Two Types		Three Types		Four Types	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	21 (1.0)	244 (2.1)	30 (1.0)	259 (1.6)	48 (1.3)	272 (1.5)
Northeast	13 (2.0)	253 (4.1)	31 (2.7)	265 (3.1)	56 (3.7)	277 (4.2)
Southeast	26 (2.3)	236 (3.3)	29 (2.4)	250 (4.6)	46 (2.7)	267 (2.8)
Central	19 (2.1)	250 (3.6)	31 (2.2)	265 (3.0)	50 (1.8)	271 (1.7)
West	24 (1.6)	244 (4.3)	31 (1.4)	257 (2.3)	45 (1.9)	273 (3.1)
STATES						
Alabama	22 (1.1)	239 (1.7)	32 (0.8)	251 (1.4)	46 (1.4)	261 (1.1)
Arizona	27 (1.3)	245 (1.8)	33 (1.0)	259 (1.6)	40 (1.4)	270 (1.6)
Arkansas	23 (0.7)	245 (1.6)	31 (1.0)	254 (1.5)	47 (1.2)	264 (1.2)
California	32 (1.2)	241 (1.4)	31 (1.0)	257 (1.6)	37 (1.4)	269 (1.7)
Colorado	15 (0.7)	249 (1.6)	32 (0.8)	264 (1.4)	53 (1.0)	275 (0.9)
Connecticut	14 (0.9)	245 (2.3)	30 (1.0)	264 (1.5)	56 (1.3)	280 (1.0)
Delaware	17 (0.7)	246 (2.0)	31 (0.9)	255 (1.6)	52 (1.0)	269 (1.4)
Dist. Columbia	24 (0.9)	224 (1.4)	34 (1.2)	228 (1.2)	42 (1.0)	239 (1.4)
Florida	27 (1.2)	240 (1.7)	33 (0.9)	255 (1.6)	40 (1.4)	266 (1.4)
Georgia	20 (0.9)	241 (1.7)	32 (1.1)	254 (1.6)	48 (1.3)	270 (1.6)
Hawaii	31 (1.1)	239 (1.4)	34 (1.0)	253 (1.5)	35 (0.8)	261 (1.2)
Idaho	16 (0.9)	257 (2.1)	32 (0.9)	270 (1.4)	53 (1.2)	277 (1.0)
Indiana	16 (0.8)	253 (2.1)	30 (0.9)	264 (1.8)	54 (1.4)	274 (1.1)
Iowa	12 (0.9)	262 (2.2)	29 (1.1)	275 (1.6)	59 (1.2)	283 (1.1)
Kentucky	22 (1.2)	243 (2.1)	30 (1.0)	253 (1.5)	48 (1.4)	266 (1.1)
Louisiana	24 (0.9)	238 (1.7)	33 (1.0)	243 (1.6)	43 (1.2)	254 (1.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	17 (0.8)	242 (2.1)	31 (0.9)	256 (1.7)	52 (1.2)	270 (1.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	16 (0.8)	249 (2.1)	33 (1.1)	261 (1.6)	50 (1.4)	272 (1.1)
Minnesota	12 (0.7)	257 (2.2)	31 (0.7)	274 (1.5)	57 (1.0)	280 (1.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	12 (0.8)	255 (3.1)	28 (1.1)	271 (1.6)	60 (1.2)	282 (1.2)
New Hampshire	12 (0.8)	261 (2.5)	27 (1.3)	271 (1.3)	61 (1.3)	277 (1.2)
New Jersey	16 (0.9)	247 (2.1)	27 (0.9)	265 (1.7)	57 (1.2)	278 (1.4)
New Mexico	28 (1.1)	244 (1.6)	31 (0.9)	257 (1.3)	40 (1.1)	266 (1.2)
New York	21 (1.2)	243 (2.9)	29 (1.0)	256 (1.7)	50 (1.4)	271 (1.2)
North Carolina	22 (0.8)	234 (1.4)	32 (0.9)	246 (1.3)	46 (1.1)	261 (1.5)
North Dakota	10 (1.0)	259 (3.7)	30 (1.2)	280 (1.7)	60 (1.3)	285 (1.2)
Ohio	16 (1.0)	247 (1.7)	30 (0.8)	261 (1.4)	54 (1.1)	271 (1.1)
Oklahoma	22 (1.0)	252 (1.7)	32 (0.9)	260 (1.5)	46 (1.3)	271 (1.6)
Pennsylvania	14 (0.7)	248 (2.6)	30 (1.2)	262 (1.9)	56 (1.4)	274 (1.6)
Rhode Island	20 (0.9)	238 (1.5)	30 (0.9)	257 (1.3)	50 (0.9)	271 (0.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	30 (1.3)	244 (2.0)	29 (1.0)	257 (1.7)	42 (1.1)	270 (1.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	18 (0.9)	247 (1.6)	31 (1.1)	259 (1.6)	51 (1.2)	274 (2.2)
West Virginia	20 (1.0)	243 (1.6)	32 (1.1)	256 (1.5)	47 (1.3)	262 (1.2)
Wisconsin	14 (0.8)	260 (2.3)	29 (1.0)	271 (1.6)	57 (1.1)	280 (1.3)
Wyoming	14 (0.7)	260 (2.1)	32 (0.9)	270 (1.1)	54 (0.7)	277 (0.9)
TERRITORIES						
Guam	36 (1.2)	221 (1.3)	37 (1.5)	235 (1.4)	27 (1.0)	243 (1.5)
Virgin Islands	24 (1.1)	213 (1.8)	36 (1.6)	217 (1.8)	40 (1.4)	224 (1.3)

TABLE 13.3 Students' Reports on Time Spent on Homework Each Day for All Subjects, Grades 4, 8, and 12

	Assessment Years	Grade 4		Grade 8		Grade 12	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Don't Usually have Homework Assigned	1992	15 (1.2)	222 (1.4)>	6 (0.6)	256 (2.3)>	10 (0.5)	280 (1.7)
	1990	20 (1.7)	215 (1.8)	7 (0.9)	244 (2.8)	11 (1.1)	276 (1.8)
Have Homework but Don't Do It	1992	3 (0.3)	198 (2.5)	6 (0.3)	250 (2.1)	7 (0.4)	294 (2.3)
	1990	4 (0.4)	196 (4.6)	7 (0.7)	252 (3.1)	7 (0.5)	288 (3.0)
One-Half Hour or Less	1992	39 (1.3)>	219 (0.9)	19 (0.7)	266 (1.6)	20 (0.6)	299 (1.1)
	1990	34 (1.5)	215 (1.3)	18 (0.9)	263 (2.2)	21 (0.8)	296 (1.8)
One Hour	1992	27 (0.9)	222 (1.5)>	42 (0.9)	271 (1.0)>	32 (0.8)	298 (1.2)
	1990	25 (0.9)	216 (1.9)	42 (1.2)	265 (1.1)	32 (1.0)	294 (1.4)
More than One Hour	1992	16 (0.7)	213 (1.2)	--	--	--	--
	1990	18 (0.8)	207 (1.9)	--	--	--	--
Two Hours	1992	--	--	19 (0.8)	272 (1.6)	18 (0.5)	303 (1.4)
	1990	--	--	18 (1.0)	269 (2.1)	19 (0.9)	300 (1.8)
More than Two Hours	1992	--	--	8 (0.5)	267 (2.8)	12 (0.7)	312 (1.7)>
	1990	--	--	8 (0.7)	261 (3.5)	11 (0.8)	301 (2.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 13.4 | Students' Reports on Time Spent on Homework Each Day for All Subjects

	Grade 4 - 1992									
	Don't Usually Have Homework Assigned		Have Homework But Don't Do It		One-Half Hour or Less		One Hour		More than One Hour	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	16 (1.3)	221 (1.5)	3 (0.3)	197 (2.6)	40 (1.5)	218 (1.0)	26 (0.9)	221 (1.6)	15 (0.7)	211 (1.5)
Northeast	3 (0.5)	*** (***)	3 (0.5)	*** (***)	45 (2.0)	222 (2.8)	33 (1.8)	228 (3.3)	17 (1.4)	216 (3.0)
Southeast	12 (1.8)	208 (3.2)	5 (0.8)	195 (4.9)	39 (2.2)	211 (1.8)	26 (1.9)	213 (3.8)	18 (1.1)	200 (2.8)
Central	29 (3.7)	227 (2.1)	2 (0.6)	*** (***)	35 (3.1)	220 (2.9)	21 (1.6)	226 (3.3)	13 (1.1)	215 (3.1)
West	16 (2.6)	220 (2.4)	3 (0.3)	*** (***)	43 (3.3)	218 (1.8)	25 (2.1)	218 (3.3)	13 (1.7)	214 (2.7)
STATES										
Alabama	8 (1.0)	208 (3.8)	3 (0.3)	187 (4.7)	38 (1.2)	205 (2.0)	29 (1.2)	212 (1.9)	23 (1.2)	206 (2.1)
Arizona	22 (1.6)	216 (1.8)	4 (0.4)	201 (3.2)	38 (1.4)	215 (1.6)	21 (1.0)	217 (1.5)	15 (0.9)	208 (2.3)
Arkansas	20 (1.6)	212 (2.7)	3 (0.4)	192 (3.5)	35 (1.2)	209 (1.2)	22 (1.0)	212 (1.4)	20 (1.1)	204 (1.7)
California	5 (1.0)	203 (4.2)	4 (0.5)	189 (3.5)	45 (1.6)	206 (1.9)	29 (1.4)	212 (2.1)	17 (0.8)	208 (3.0)
Colorado	20 (1.6)	220 (1.9)	3 (0.4)	203 (4.8)	37 (1.5)	221 (1.5)	25 (1.1)	224 (1.4)	15 (1.0)	213 (2.0)
Connecticut	5 (0.7)	226 (4.2)	2 (0.3)	*** (***)	45 (1.6)	225 (1.4)	33 (1.4)	232 (1.6)	16 (1.3)	220 (2.1)
Delaware	8 (0.6)	206 (2.3)	3 (0.4)	*** (***)	44 (1.0)	214 (1.2)	27 (1.2)	226 (1.7)	20 (1.1)	217 (1.7)
Dist. Columbia	8 (0.6)	177 (3.1)	2 (0.3)	*** (***)	39 (0.9)	190 (1.1)	27 (0.9)	199 (1.4)	23 (0.8)	192 (1.4)
Florida	9 (1.2)	207 (3.0)	3 (0.4)	189 (4.8)	47 (1.4)	214 (1.9)	24 (1.0)	215 (2.1)	17 (1.0)	210 (1.8)
Georgia	10 (1.0)	211 (2.5)	3 (0.4)	191 (3.3)	47 (1.3)	215 (1.8)	25 (1.0)	219 (1.6)	15 (0.9)	211 (1.6)
Hawaii	4 (0.6)	191 (4.2)	4 (0.3)	190 (3.7)	38 (1.2)	213 (1.5)	30 (1.1)	220 (1.5)	24 (0.9)	213 (2.0)
Idaho	44 (1.8)	225 (1.0)	3 (0.4)	203 (2.9)	27 (1.5)	221 (1.6)	17 (0.8)	217 (1.7)	9 (0.8)	209 (2.1)
Indiana	20 (1.6)	227 (1.6)	3 (0.4)	206 (3.9)	33 (1.5)	218 (1.3)	24 (1.1)	223 (1.5)	20 (1.1)	215 (1.8)
Iowa	34 (2.1)	231 (1.5)	2 (0.3)	*** (***)	32 (1.5)	229 (1.4)	21 (1.2)	231 (1.5)	11 (0.8)	223 (2.2)
Kentucky	18 (1.3)	215 (1.7)	3 (0.4)	196 (3.2)	34 (1.4)	214 (1.5)	26 (1.1)	218 (1.7)	20 (0.9)	210 (1.6)
Louisiana	7 (1.0)	208 (3.3)	4 (0.4)	190 (4.4)	39 (1.3)	205 (1.6)	27 (0.9)	206 (1.8)	23 (1.1)	199 (1.8)
Maine	16 (2.4)	230 (3.0)	3 (0.6)	216 (4.2)	38 (2.0)	231 (1.4)	27 (1.5)	235 (1.4)	15 (1.0)	228 (2.6)
Maryland	3 (0.7)	209 (5.0)!	3 (0.4)	187 (4.8)	50 (1.7)	217 (1.8)	28 (1.0)	224 (1.6)	16 (1.0)	208 (2.7)
Massachusetts	5 (1.2)	218 (4.3)!	1 (0.2)	*** (***)	50 (1.8)	227 (1.4)	31 (1.5)	229 (1.7)	13 (1.0)	217 (2.3)
Michigan	26 (1.8)	225 (2.2)	3 (0.4)	202 (3.4)	34 (1.7)	218 (2.3)	22 (1.1)	220 (2.5)	14 (1.0)	209 (2.8)
Minnesota	35 (1.7)	232 (1.3)	3 (0.4)	207 (5.7)	31 (1.1)	228 (1.6)	20 (1.1)	228 (1.6)	11 (1.0)	217 (2.6)
Mississippi	10 (0.9)	196 (2.5)	3 (0.4)	192 (3.0)	38 (1.1)	201 (1.5)	25 (1.0)	205 (1.7)	24 (1.2)	196 (2.2)
Missouri	26 (1.8)	226 (2.0)	2 (0.3)	*** (***)	34 (1.3)	222 (1.5)	24 (1.1)	222 (1.6)	14 (0.8)	211 (2.1)
Nebraska	40 (1.8)	230 (1.8)	2 (0.3)	*** (***)	29 (1.4)	224 (1.6)	18 (1.0)	223 (2.1)	12 (0.9)	213 (2.3)
New Hampshire	10 (1.4)	227 (2.8)	2 (0.3)	*** (***)	45 (1.6)	228 (1.3)	30 (1.5)	233 (1.6)	13 (0.9)	225 (2.3)
New Jersey	4 (0.7)	219 (4.8)	2 (0.3)	*** (***)	38 (1.4)	224 (1.8)	34 (1.4)	231 (1.6)	23 (1.1)	225 (2.1)
New Mexico	27 (2.6)	209 (1.9)	3 (0.5)	194 (4.8)	31 (1.7)	213 (1.7)	23 (1.4)	218 (2.3)	16 (1.4)	209 (2.4)
New York	10 (1.5)	227 (2.2)	2 (0.3)	*** (***)	38 (1.4)	216 (1.4)	31 (1.2)	220 (1.9)	19 (1.2)	213 (2.4)
North Carolina	7 (0.9)	209 (3.0)	3 (0.4)	188 (4.6)	41 (1.3)	211 (1.4)	28 (0.9)	217 (1.4)	21 (1.2)	210 (2.2)
North Dakota	33 (1.7)	235 (1.5)	2 (0.4)	*** (***)	27 (1.0)	225 (1.3)	24 (1.1)	227 (1.3)	14 (1.0)	219 (1.5)
Ohio	15 (1.5)	221 (2.2)	3 (0.4)	200 (3.5)	39 (1.6)	217 (1.8)	26 (1.3)	222 (1.6)	17 (1.1)	213 (1.8)
Oklahoma	34 (2.0)	224 (1.5)	3 (0.5)	211 (3.5)	28 (1.4)	217 (1.6)	20 (1.1)	219 (1.5)	15 (1.0)	213 (1.8)
Pennsylvania	6 (1.0)	221 (2.9)	2 (0.3)	*** (***)	44 (1.2)	224 (1.7)	32 (1.0)	227 (1.7)	15 (1.0)	217 (2.2)
Rhode Island	6 (0.7)	209 (5.4)	2 (0.4)	*** (***)	48 (1.6)	215 (1.6)	23 (1.1)	218 (2.1)	15 (1.1)	209 (2.5)
South Carolina	6 (0.6)	207 (4.3)	3 (0.4)	190 (3.3)	43 (1.2)	211 (1.2)	29 (1.0)	218 (1.6)	19 (1.2)	207 (1.8)
Tennessee	15 (1.4)	212 (2.2)	3 (0.4)	191 (4.6)	35 (1.1)	208 (1.8)	28 (0.9)	214 (1.7)	20 (1.1)	205 (1.9)
Texas	17 (1.6)	215 (2.1)	3 (0.5)	202 (4.1)	39 (1.6)	217 (1.6)	24 (1.4)	222 (1.9)	16 (1.1)	214 (2.3)
Utah	31 (1.6)	223 (1.6)	4 (0.5)	209 (3.2)	36 (1.6)	226 (1.2)	19 (1.2)	223 (1.6)	10 (0.8)	217 (2.2)
Virginia	6 (0.9)	214 (3.9)	3 (0.4)	195 (4.6)	38 (1.2)	218 (1.5)	33 (1.1)	228 (2.0)	21 (1.0)	215 (1.8)
West Virginia	21 (1.6)	218 (1.6)	3 (0.4)	199 (3.7)	33 (1.4)	215 (1.4)	25 (1.2)	216 (1.8)	17 (0.9)	208 (1.8)
Wisconsin	22 (1.8)	231 (1.7)	2 (0.3)	203 (4.4)	35 (1.1)	228 (1.5)	26 (1.0)	229 (1.8)	15 (1.0)	224 (1.9)
Wyoming	37 (2.2)	228 (1.4)	3 (0.4)	207 (3.3)	31 (1.7)	223 (1.2)	18 (1.1)	225 (1.4)	12 (1.0)	219 (2.1)
TERRITORY										
Guam	15 (0.9)	188 (2.3)	5 (0.6)	170 (4.1)	38 (1.3)	197 (1.4)	26 (1.2)	192 (1.6)	16 (0.8)	186 (2.1)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 13.4 | Students' Reports on Time Spent on Homework Each Day for All Subjects (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Don't Usually Have Homework Assigned		Have Homework But Don't Do It		One-Half Hour or Less	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (0.6)	256 (2.3)	7 (0.4)	249 (2.2)	20 (0.7)	265 (1.7)
Northeast	4 (0.6)	*** (***)	6 (1.2)	*** (***)	21 (2.4)	261 (6.2)
Southeast	7 (1.6)	249 (3.8)!	7 (0.6)	247 (3.1)	22 (1.4)	259 (2.1)
Central	5 (0.9)	*** (***)	6 (0.9)	254 (4.7)	19 (0.9)	274 (2.9)
West	9 (1.0)	256 (2.9)	7 (0.5)	249 (5.2)	18 (1.3)	266 (3.0)
STATES						
Alabama	5 (0.6)	247 (4.2)	6 (0.5)	241 (3.1)<	23 (0.8)	252 (2.5)
Arizona	10 (0.9)	259 (3.0)>	7 (0.6)	253 (3.5)	22 (1.0)	266 (2.0)
Arkansas	8 (0.7)	253 (2.5)	6 (0.5)	249 (2.2)	24 (0.9)	258 (1.9)
California	4 (0.5)	241 (4.0)	5 (0.5)	244 (3.1)	17 (1.0)	253 (2.4)
Colorado	7 (0.7)	263 (3.5)	5 (0.5)	256 (3.5)	20 (0.8)	273 (2.0)
Connecticut	3 (0.4)	241 (3.8)	4 (0.5)	255 (3.7)	15 (0.8)	268 (2.4)
Delaware	5 (0.5)	242 (4.8)	6 (0.5)	257 (3.4)	22 (1.0)	259 (2.0)
Dist. Columbia	5 (0.6)	211 (4.5)	6 (0.7)	224 (4.6)	17 (1.2)	228 (2.1)
Florida	7 (0.7)	247 (2.5)	6 (0.5)	252 (3.5)	22 (0.8)	258 (2.0)
Georgia	8 (0.9)	245 (4.2)	5 (0.5)	251 (4.3)	22 (0.9)	257 (1.9)
Hawaii	7 (0.5)	235 (3.5)	7 (0.6)	242 (3.2)	20 (0.7)	250 (1.7)
Idaho	12 (0.8)	276 (1.8)	5 (0.4)	261 (3.1)	21 (1.0)	280 (1.7)>
Indiana	7 (0.7)	265 (3.3)	6 (0.5)	255 (2.9)	21 (0.8)	272 (1.5)
Iowa	6 (0.5)	277 (3.1)	5 (0.4)	266 (4.0)	23 (1.0)	287 (1.8)
Kentucky	12 (0.8)	252 (2.2)	5 (0.5)	254 (3.3)	22 (1.1)	263 (1.6)
Louisiana	5 (0.6)	245 (4.3)	6 (0.6)	246 (2.6)	19 (1.0)	249 (2.4)
Maine	2 (0.2)	*** (***)	5 (0.5)	259 (3.7)	15 (0.8)	277 (2.1)
Maryland	3 (0.4)	*** (***)	5 (0.6)	248 (4.1)	21 (1.1)	259 (2.3)
Massachusetts	2 (0.3)	*** (***)	4 (0.5)	253 (4.0)	15 (1.1)	266 (2.4)
Michigan	6 (0.6)	265 (2.9)	6 (0.6)	261 (4.0)	21 (0.9)	268 (2.3)
Minnesota	8 (0.9)	275 (3.1)	5 (0.5)	271 (3.3)	23 (1.2)	285 (1.3)>
Mississippi	6 (0.8)	238 (3.6)	5 (0.6)	238 (3.7)	21 (1.1)	245 (1.6)
Missouri	7 (0.8)	260 (2.9)	5 (0.5)	263 (3.8)	21 (1.0)	272 (2.3)
Nebraska	8 (0.8)	266 (3.0)	4 (0.4)	262 (3.5)	21 (0.8)	280 (2.1)
New Hampshire	1 (0.3)	*** (***)	5 (0.4)	262 (3.7)	16 (0.9)	275 (1.7)
New Jersey	2 (0.3)	*** (***)	3 (0.4)	258 (5.0)	16 (1.1)	265 (2.8)
New Mexico	9 (0.9)	255 (2.4)	7 (0.6)	247 (2.7)	20 (0.9)	262 (1.5)
New York	2 (0.4)	*** (***)	5 (0.6)	244 (5.4)	18 (1.1)	256 (3.2)
North Carolina	5 (0.6)	244 (3.5)	6 (0.5)	244 (3.2)	20 (1.0)	254 (1.8)>
North Dakota	6 (0.7)	287 (2.6)	4 (0.4)	267 (3.3)	22 (0.9)	287 (1.6)
Ohio	5 (0.6)	249 (3.5)	7 (0.7)>	252 (2.9)	20 (0.9)	268 (2.2)
Oklahoma	8 (0.8)	263 (3.2)	6 (0.5)	253 (2.5)	20 (0.9)	270 (2.1)
Pennsylvania	5 (0.6)	246 (5.5)	4 (0.4)	254 (3.1)	24 (1.1)	273 (2.3)
Rhode Island	3 (0.3)	*** (***)	4 (0.4)«	257 (4.1)	19 (1.0)	263 (1.7)>
South Carolina	5 (0.6)	246 (3.3)	5 (0.4)	252 (3.4)	22 (0.9)	259 (1.6)
Tennessee	6 (1.0)	252 (3.7)	4 (0.4)	252 (4.3)	21 (0.8)	259 (2.1)
Texas	9 (0.8)	253 (2.7)	7 (0.6)	253 (2.7)	19 (0.9)	262 (1.8)
Utah	10 (0.8)	267 (2.4)	6 (0.5)	266 (3.1)	23 (0.9)	275 (1.4)
Virginia	4 (0.5)	242 (3.6)	6 (0.7)	252 (3.3)	20 (0.8)	264 (1.8)
West Virginia	12 (1.0)	257 (2.1)	6 (0.6)	246 (2.9)	21 (1.1)	263 (1.7)
Wisconsin	7 (0.7)	275 (3.9)	5 (0.5)	262 (3.0)	22 (1.3)	279 (2.0)
Wyoming	11 (1.0)	272 (2.9)	7 (0.5)	261 (2.3)	22 (0.8)	281 (1.6)
TERRITORIES						
Guam	13 (0.6)	226 (3.0)	9 (0.7)	221 (4.5)	19 (1.2)	229 (2.2)
Virgin Islands	13 (1.0)	211 (2.3)	7 (0.8)	224 (3.2)	22 (1.3)	222 (2.1)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 13.4 | **Students' Reports on Time Spent on Homework Each Day for All Subjects (continued)**

PUBLIC SCHOOLS	Grade 8 - 1992					
	One Hour		Two Hours		More than Two Hours	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	42 (1.0)	270 (1.2)	17 (0.9)	270 (1.7)	8 (0.5)	264 (3.5)
Northeast	43 (1.5)	270 (3.3)	19 (2.5)	277 (3.7)	8 (0.8)	268 (7.0)
Southeast	39 (2.1)	263 (1.5)	17 (1.3)	257 (2.0)	7 (0.9)	250 (3.8)
Central	48 (2.9)	276 (2.2)	17 (2.0)	273 (2.9)	6 (0.8)	270 (5.8)
West	39 (1.2)	269 (2.5)	17 (1.1)	275 (3.7)	10 (1.5)	268 (7.3)
STATES						
Alabama	40 (1.2)	254 (2.0)	19 (0.7)	250 (1.8)	7 (0.5)	249 (2.8)
Arizona	41 (1.0)	267 (1.3)	15 (0.9) <	267 (2.5) >	5 (0.5)	260 (3.1)
Arkansas	40 (1.0)	259 (1.5)	16 (1.0)	252 (1.9)	7 (0.5)	244 (4.1)
California	42 (1.4)	262 (1.9)	21 (1.1)	269 (2.4)	10 (1.0)	267 (3.5)
Colorado	43 (0.9)	274 (1.0) >	18 (0.8)	276 (1.6) >	7 (0.6)	264 (2.7)
Connecticut	45 (0.9)	275 (1.2)	25 (1.0)	280 (2.0)	9 (0.7)	275 (2.9)
Delaware	44 (1.1)	266 (1.2)	18 (1.0)	265 (2.1)	5 (0.5)	260 (4.2)
Dist. Columbia	41 (1.5)	238 (1.4) >	22 (1.1)	239 (2.5)	10 (0.6)	237 (3.2)
Florida	39 (1.0)	262 (2.1)	18 (0.8)	264 (2.3)	7 (0.6)	257 (3.2)
Georgia	43 (1.0)	263 (1.4)	16 (0.9)	262 (2.2)	7 (0.6)	251 (2.7)
Hawaii	37 (1.0)	260 (1.6) >	18 (0.9)	265 (1.8)	11 (0.7)	270 (3.0) >
Idaho	42 (1.0)	275 (1.0)	15 (0.8)	274 (1.9)	5 (0.5)	261 (2.3)
Indiana	46 (1.1)	271 (1.4)	14 (0.7) <	270 (2.8)	6 (0.6)	268 (2.5)
Iowa	48 (1.0)	283 (1.0) >	15 (0.9)	285 (2.3)	4 (0.4)	275 (3.6)
Kentucky	39 (1.0)	263 (1.3)	15 (0.8)	265 (2.3)	6 (0.6)	267 (3.9) >
Louisiana	40 (1.2)	251 (1.7)	21 (0.9)	251 (2.5)	10 (0.8)	244 (2.6)
Maine	46 (1.1)	280 (1.3)	24 (1.0)	281 (1.6)	8 (0.8)	280 (2.8)
Maryland	46 (1.3)	268 (1.4)	19 (0.9)	270 (2.3)	7 (0.7)	262 (3.6)
Massachusetts	45 (1.0)	273 (1.2)	25 (1.2)	279 (1.8)	9 (0.7)	275 (3.0)
Michigan	44 (1.1)	269 (1.6)	17 (0.9)	267 (2.3)	7 (0.6)	257 (4.4)
Minnesota	44 (1.3)	283 (1.3) >	15 (0.9)	280 (1.5)	5 (0.7)	282 (4.1)
Mississippi	41 (1.1)	249 (1.5)	19 (1.0)	247 (2.2)	8 (0.6)	237 (2.7)
Missouri	44 (1.1)	273 (1.2)	16 (0.8)	272 (2.2)	6 (0.6)	264 (3.5)
Nebraska	45 (1.0)	280 (1.3)	16 (1.0)	278 (1.7)	5 (0.5)	269 (3.4)
New Hampshire	46 (1.1)	279 (1.2)	22 (1.1)	282 (1.5)	9 (0.6)	279 (2.9)
New Jersey	47 (1.1)	274 (1.7)	21 (1.1)	275 (2.6)	10 (0.8)	271 (2.2)
New Mexico	38 (0.9)	260 (1.2)	18 (0.8)	260 (1.6)	7 (0.5)	258 (2.4)
New York	45 (1.7)	271 (2.1)	21 (1.7)	272 (2.9)	9 (0.9)	267 (4.2)
North Carolina	45 (1.1) >	263 (1.4) »	19 (1.1)	257 (2.2)	7 (0.5)	258 (3.5)
North Dakota	43 (1.1)	283 (1.6)	20 (1.0)	281 (1.7)	6 (0.6)	273 (3.6)
Ohio	45 (1.5)	272 (1.7) >	17 (1.0)	269 (2.4)	6 (0.6)	259 (3.6)
Oklahoma	41 (1.1)	270 (1.4) >	18 (0.9)	266 (1.7)	7 (0.7)	263 (3.5)
Pennsylvania	47 (1.0)	274 (1.6)	16 (1.0)	272 (2.5)	4 (0.4)	265 (3.9)
Rhode Island	48 (1.4)	266 (1.0)	19 (1.1)	271 (1.7)	7 (0.8)	268 (3.5)
South Carolina	42 (1.2)	262 (1.2)	19 (1.1)	262 (1.7)	7 (0.5)	255 (3.2)
Tennessee	44 (1.2)	260 (1.3)	18 (0.9)	259 (2.1)	6 (0.6)	252 (2.8)
Texas	[illegible] (0.9)	267 (1.5)	20 (0.9)	270 (2.3) >	8 (0.6)	261 (2.7)
Utah	[illegible] (1.1)	275 (0.9)	16 (1.0)	277 (1.8)	5 (0.5)	271 (2.9)
Virginia	43 (1.2)	270 (1.1)	20 (1.0)	274 (2.3)	7 (0.7)	269 (3.2)
West Virginia	40 (1.2)	261 (1.3)	15 (0.8)	254 (1.8)	5 (0.5)	253 (2.9)
Wisconsin	45 (1.0)	280 (1.3)	16 (1.1)	276 (3.0)	5 (0.7)	268 (6.0)
Wyoming	40 (1.0)	276 (1.0)	15 (0.6)	273 (1.9)	5 (0.5)	264 (4.0)
TERRITORIES						
Guam	31 (1.3)	245 (1.6) >	16 (0.9)	244 (2.7)	12 (1.0)	236 (3.5)
Virgin Islands	31 (1.2)	225 (1.5)	16 (1.1)	228 (2.5)	11 (0.9) <	220 (3.2)

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TABLE 13.4 | Students' Reports on Time Spent on Homework Each Day for All Subjects (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Don't Usually Have Homework Assigned		Have Homework But Don't Do It		One-Half Hour or Less	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (0.9)	243 (2.9)	8 (0.7)	252 (3.1)	19 (1.0)	262 (2.3)
Northeast	4 (1.5)	*** (***)	7 (2.2)	*** (***)	19 (2.3)	267 (4.7)
Southeast	8 (2.1)	233 (5.1)!	6 (1.0)	*** (***)	18 (2.2)	252 (5.1)
Central	6 (1.4)	*** (***)	9 (1.7)	253 (6.6)	21 (1.8)	275 (3.6)
West	9 (1.9)	242 (3.7)!	9 (1.1)	252 (6.3)	17 (1.6)	257 (4.2)
STATES						
Alabama	5 (0.6)	238 (3.8)	6 (0.6)	254 (2.8)	20 (1.0)	253 (2.0)
Arizona	7 (0.6)	245 (2.7)	7 (0.6)	252 (2.5)	19 (1.0)	263 (2.1)
Arkansas	7 (0.7)	253 (3.1)	6 (0.6)	249 (3.0)	25 (0.9)	260 (1.8)
California	4 (0.6)	239 (5.4)	6 (0.4)	233 (3.1)	18 (1.0)	251 (2.2)
Colorado	6 (0.8)	262 (3.0)	6 (0.5)	253 (2.9)	21 (1.0)	269 (1.7)
Connecticut	3 (0.5)	236 (4.0)	4 (0.4)	262 (3.9)	16 (0.8)	265 (1.9)
Delaware	3 (0.5)	*** (***)	6 (0.5)	247 (3.5)	21 (1.1)	258 (2.0)
Dist. Columbia	3 (0.5)	209 (3.5)	6 (0.5)	221 (2.9)	18 (0.8)	226 (1.6)
Florida	10 (0.8)	241 (3.1)	7 (0.6)	246 (3.3)	24 (0.9)	255 (1.9)
Georgia	7 (0.7)	247 (3.9)	5 (0.5)	252 (3.5)	22 (0.8)	259 (1.7)
Hawaii	6 (0.5)	223 (3.6)	7 (0.5)	240 (2.7)	20 (0.7)	245 (1.7)
Idaho	12 (0.6)	271 (2.1)	6 (0.5)	264 (2.8)	21 (1.0)	274 (1.4)
Indiana	6 (0.6)	257 (3.3)	5 (0.4)	257 (3.5)	20 (0.9)	269 (1.9)
Iowa	5 (0.6)	273 (3.4)	5 (0.5)	267 (3.4)	23 (1.0)	282 (1.7)
Kentucky	11 (0.8)	252 (2.2)	5 (0.4)	249 (2.4)	20 (0.9)	261 (1.6)
Louisiana	4 (0.5)	235 (3.6)	5 (0.6)	242 (3.6)	19 (1.0)	247 (2.3)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	2 (0.4)	239 (4.3)	4 (0.4)	246 (3.9)	21 (1.0)	254 (1.9)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	7 (0.8)	260 (3.1)	4 (0.5)	254 (3.2)	20 (0.9)	267 (2.1)
Minnesota	7 (0.6)	271 (2.6)	6 (0.6)	259 (3.3)	23 (0.9)	279 (1.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	8 (0.7)	270 (3.4)	5 (0.6)	257 (4.4)	21 (1.4)	281 (2.6)
New Hampshire	2 (0.4)	*** (***)	5 (0.4)	258 (3.0)	16 (0.8)	272 (2.2)
New Jersey	2 (0.4)	*** (***)	3 (0.4)	260 (4.1)	19 (1.2)	267 (2.2)
New Mexico	9 (0.6)	253 (2.5)	6 (0.4)	248 (3.4)	18 (0.8)	256 (1.6)
New York	3 (0.4)	*** (***)	4 (0.5)	256 (3.3)	19 (0.8)	257 (2.5)
North Carolina	7 (0.7)	237 (3.9)	5 (0.4)	244 (2.8)	20 (0.9)	246 (1.6)
North Dakota	8 (0.8)	284 (3.3)	5 (0.6)	273 (5.1)	22 (1.2)	285 (2.1)
Ohio	6 (0.6)	252 (3.3)	5 (0.4)	254 (2.7)	20 (1.0)	266 (1.9)
Oklahoma	10 (0.8)	264 (3.1)	5 (0.5)	252 (2.9)	18 (1.0)	267 (2.4)
Pennsylvania	4 (0.5)	254 (4.4)	5 (0.5)	254 (4.0)	24 (1.1)	265 (2.1)
Rhode Island	3 (0.3)	228 (5.0)	7 (0.5)	244 (3.0)	20 (0.8)	256 (1.6)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	11 (0.8)	250 (2.6)	6 (0.5)	249 (3.3)	19 (0.8)	258 (2.2)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	5 (0.5)	239 (3.4)	5 (0.5)	248 (3.4)	20 (0.7)	258 (2.2)
West Virginia	11 (0.9)	255 (2.3)	7 (0.6)	247 (3.0)	19 (0.9)	260 (1.9)
Wisconsin	7 (1.0)	273 (3.9)	5 (0.4)	260 (2.9)	22 (1.0)	279 (1.8)
Wyoming	8 (0.5)	267 (2.1)	7 (0.5)	260 (2.6)	20 (0.7)	277 (1.3)
TERRITORIES						
Guam	13 (0.7)	220 (2.9)	9 (1.0)	225 (3.9)	19 (1.0)	226 (1.9)
Virgin Islands	11 (0.7)	212 (1.9)	5 (0.6)	211 (4.0)	21 (1.2)	218 (2.0)

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TABLE 13.4 | Students' Reports on Time Spent on Homework Each Day for All Subjects (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	One Hour		Two Hours		More than Two Hours	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	42 (1.3)	265 (1.2)	17 (1.0)	268 (2.3)	7 (0.7)	261 (4.0)
Northeast	45 (3.1)	272 (3.7)	19 (3.7)	276 (7.0)!	7 (2.0)	*** (***)
Southeast	40 (2.3)	257 (2.4)	17 (1.8)	266 (3.6)	10 (1.6)	252 (4.4)
Central	44 (3.2)	266 (2.8)	16 (1.5)	265 (4.1)	5 (1.4)	*** (***)
West	41 (2.0)	265 (2.0)	17 (1.5)	267 (3.6)	8 (1.0)	266 (8.8)
STATES						
Alabama	40 (1.1)	255 (1.4)	21 (1.0)	255 (1.7)	7 (0.5)	248 (3.2)
Arizona	42 (1.1)	263 (1.4)	18 (0.9)	258 (2.1)	7 (0.7)	259 (2.9)
Arkansas	42 (1.1)	259 (1.2)	14 (0.8)	248 (2.2)	6 (0.5)	250 (3.2)
California	42 (1.1)	259 (1.6)	20 (1.1)	263 (2.1)	11 (0.7)	264 (2.8)
Colorado	42 (1.0)	270 (1.1)	19 (0.9)	269 (1.9)	7 (0.6)	266 (2.8)
Connecticut	46 (1.2)	270 (1.2)	23 (0.9)	279 (1.5)	8 (0.5)	270 (3.3)
Delaware	46 (1.6)	264 (1.5)	17 (0.9)	265 (1.8)	6 (0.7)	260 (3.7)
Dist. Columbia	41 (1.1)	233 (1.0)	21 (0.9)	239 (1.7)	9 (0.7)	236 (3.5)
Florida	37 (1.2)	260 (1.5)	16 (0.7)	259 (2.4)	6 (0.6)	257 (3.1)
Georgia	41 (1.1)	262 (1.5)	18 (0.9)	261 (2.3)	7 (0.6)	254 (4.0)
Hawaii	36 (1.0)	253 (1.5)	19 (1.0)	265 (1.6)	12 (0.6)	258 (2.5)
Idaho	42 (1.2)	273 (1.1)	14 (0.9)	270 (2.2)	5 (0.5)	265 (3.2)
Indiana	45 (1.1)	268 (1.3)	18 (1.0)	270 (1.6)	6 (0.5)	266 (3.5)
Iowa	48 (1.2)	279 (1.2)	15 (0.9)	279 (2.1)	5 (0.6)	268 (3.9)
Kentucky	42 (1.4)	259 (1.5)	15 (0.9)	258 (1.6)	7 (0.7)	252 (3.2)
Louisiana	39 (1.1)	250 (1.3)	22 (1.0)	246 (2.0)	10 (0.6)	240 (2.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	43 (1.1)	264 (1.4)	21 (1.0)	267 (2.4)	8 (0.6)	262 (3.2)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	44 (1.0)	265 (1.4)	19 (1.0)	266 (2.0)	6 (0.6)	258 (4.4)
Minnesota	44 (1.2)	277 (1.0)	15 (1.0)	275 (1.7)	5 (0.4)	272 (3.5)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	43 (1.1)	277 (1.0)	18 (1.0)	274 (2.0)	6 (0.7)	276 (3.0)
New Hampshire	47 (1.1)	276 (1.1)	22 (1.1)	276 (1.5)	8 (0.8)	277 (3.2)
New Jersey	46 (1.0)	271 (1.2)	22 (1.1)	273 (2.0)	8 (0.6)	268 (3.2)
New Mexico	41 (1.0)	258 (1.2)	19 (0.9)	260 (1.6)	7 (0.6)	257 (2.3)
New York	44 (0.9)	265 (1.6)	21 (1.0)	264 (2.2)	9 (0.6)	257 (3.8)
North Carolina	41 (0.9)	253 (1.3)	19 (0.9)	255 (1.9)	9 (0.6)	254 (3.1)
North Dakota	41 (1.1)	281 (1.4)	19 (1.0)	279 (2.2)	5 (0.5)	276 (3.4)
Ohio	45 (1.0)	266 (1.4)	20 (1.0)	263 (1.6)	6 (0.5)	260 (2.9)
Oklahoma	41 (1.1)	264 (1.4)	18 (0.9)	263 (2.0)	8 (0.6)	258 (2.7)
Pennsylvania	47 (1.0)	269 (1.6)	15 (0.8)	267 (2.4)	5 (0.5)	264 (5.7)
Rhode Island	43 (1.2)	264 (1.1)	19 (0.8)	267 (1.3)	8 (0.6)	264 (2.8)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	38 (1.0)	262 (1.5)	18 (0.8)	261 (2.4)	8 (0.6)	253 (3.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	45 (1.1)	266 (1.4)	19 (0.9)	272 (3.2)	7 (0.6)	279 (3.6)
West Virginia	41 (1.1)	257 (1.3)	15 (0.9)	255 (1.6)	6 (0.5)	254 (3.0)
Wisconsin	43 (1.1)	277 (1.3)	17 (1.0)	271 (2.0)	7 (0.6)	265 (3.1)
Wyoming	42 (0.8)	274 (0.9)	17 (0.8)	272 (1.7)	6 (0.5)	264 (3.1)
TERRITORIES						
Guam	30 (1.0)	239 (1.6)	17 (1.0)	240 (1.9)	12 (1.0)	239 (2.9)
Virgin Islands	28 (1.0)	221 (1.9)	18 (0.9)	222 (2.1)	15 (1.2)	222 (2.5)

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TABLE 13.5 Students' Reports on Number of Pages Read Each Day for School and Homework for All Subjects, Grades 4, 8, and 12

	Assessment Years	More than 10 Pages		Six to 10 Pages		Five or Fewer Pages	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	1992	56 (1.1)	222 (0.8)>	22 (0.8)	219 (1.2)>	22 (0.9)<	209 (1.5)>
	1990	53 (1.4)	218 (1.0)	22 (0.9)	212 (1.9)	26 (1.2)	203 (1.7)
Grade 8	1992	40 (0.9)	273 (1.3)	29 (0.7)	270 (1.2)	31 (0.9)<	260 (1.1)>
	1990	36 (1.3)	268 (1.8)	28 (0.9)	266 (1.7)	36 (1.1)	256 (1.4)
Grade 12	1992	46 (1.0)	307 (1.0)	24 (0.5)	296 (1.3)	30 (0.9)	289 (1.1)>
	1990	44 (1.7)	304 (1.5)	23 (0.9)	292 (1.6)	33 (1.5)	283 (1.7)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

TABLE 13.6 | Students' Reports on Number of Pages Read Each Day for School and Homework for All Subjects

PUBLIC SCHOOLS	Grade 4 - 1992					
	More than 10 Pages		Six to 10 Pages		Five or Fewer Pages	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	56 (1.2)	221 (0.9)	22 (0.9)	218 (1.3)	22 (0.9)	207 (1.6)
Northeast	53 (2.9)	227 (2.8)	24 (2.3)	223 (3.6)	23 (2.0)	212 (3.7)
Southeast	50 (2.0)	211 (1.6)	24 (1.4)	211 (2.2)	26 (1.8)	201 (3.7)
Central	62 (3.1)	226 (2.0)	20 (2.4)	223 (2.9)	18 (1.9)	209 (3.3)
West	57 (1.5)	221 (1.7)	20 (1.4)	216 (1.9)	23 (1.6)	209 (2.5)
STATES						
Alabama	56 (1.8)	209 (1.8)	21 (1.2)	210 (2.3)	23 (1.5)	200 (2.1)
Arizona	60 (1.6)	217 (1.2)	19 (1.0)	215 (1.9)	22 (1.2)	206 (1.7)
Arkansas	51 (1.5)	212 (1.3)	22 (1.1)	212 (1.5)	26 (1.1)	200 (1.5)
California	62 (1.6)	211 (1.8)	19 (1.1)	205 (2.1)	19 (1.5)	196 (2.4)
Colorado	67 (1.7)	222 (1.2)	16 (1.0)	219 (1.9)	16 (1.1)	210 (1.6)
Connecticut	64 (1.7)	229 (1.2)	20 (1.1)	227 (2.1)	17 (1.2)	211 (2.3)
Delaware	51 (1.2)	221 (1.3)	22 (1.2)	218 (1.4)	27 (1.1)	207 (1.8)
Dist. Columbia	41 (1.0)	194 (0.9)	23 (0.9)	193 (1.3)	36 (0.9)	187 (1.0)
Florida	56 (1.6)	215 (1.7)	23 (0.8)	214 (2.0)	22 (1.4)	204 (1.9)
Georgia	56 (1.5)	218 (1.7)	23 (1.0)	215 (1.6)	21 (1.0)	203 (1.8)
Hawaii	60 (1.4)	215 (1.4)	19 (1.1)	216 (2.0)	21 (1.0)	203 (1.9)
Idaho	68 (1.3)	223 (0.9)	17 (0.9)	219 (1.7)	15 (0.9)	211 (1.8)
Indiana	63 (1.4)	222 (1.2)	21 (1.0)	221 (1.5)	16 (1.1)	210 (2.0)
Iowa	69 (1.3)	231 (1.1)	18 (1.0)	229 (1.7)	13 (0.9)	217 (2.2)
Kentucky	54 (1.5)	217 (1.3)	23 (1.0)	215 (1.4)	23 (1.2)	204 (1.5)
Louisiana	47 (1.6)	208 (1.6)	23 (1.0)	205 (2.0)	30 (1.5)	195 (1.9)
Maine	60 (1.7)	234 (1.3)	20 (1.3)	231 (1.5)	20 (1.4)	222 (1.9)
Maryland	51 (1.7)	219 (1.4)	23 (1.0)	220 (2.1)	26 (1.3)	207 (1.8)
Massachusetts	65 (2.0)	228 (1.2)	19 (1.2)	226 (1.9)	16 (1.3)	215 (2.6)
Michigan	58 (1.8)	223 (1.8)	21 (1.1)	217 (2.3)	21 (1.4)	207 (2.7)
Minnesota	64 (1.6)	230 (1.0)	18 (0.9)	227 (1.7)	18 (1.1)	218 (1.9)
Mississippi	49 (1.7)	202 (1.4)	24 (1.0)	204 (1.5)	28 (1.4)	194 (1.9)
Missouri	61 (1.5)	224 (1.3)	20 (0.9)	221 (1.8)	19 (1.3)	211 (2.0)
Nebraska	67 (1.7)	226 (1.4)	17 (1.1)	224 (2.1)	16 (1.1)	210 (1.8)
New Hampshire	63 (1.6)	231 (1.1)	20 (1.1)	230 (1.7)	17 (1.1)	218 (2.1)
New Jersey	56 (2.2)	229 (1.6)	23 (1.4)	228 (1.9)	21 (1.5)	217 (1.9)
New Mexico	58 (1.6)	214 (1.6)	21 (1.1)	214 (2.1)	21 (1.1)	204 (1.6)
New York	58 (1.9)	222 (1.5)	21 (1.4)	216 (1.8)	21 (1.4)	205 (2.2)
North Carolina	61 (1.7)	215 (1.2)	18 (1.0)	212 (1.9)	21 (1.2)	201 (1.9)
North Dakota	68 (1.9)	229 (1.0)	18 (1.2)	230 (1.3)	14 (1.3)	218 (1.6)
Ohio	57 (1.6)	222 (1.4)	21 (1.1)	217 (1.8)	22 (1.3)	208 (2.0)
Oklahoma	61 (1.5)	221 (0.9)	20 (1.0)	220 (1.8)	18 (1.0)	213 (2.5)
Pennsylvania	54 (1.8)	227 (1.8)	25 (1.3)	223 (1.6)	21 (1.0)	215 (2.1)
Rhode Island	59 (1.6)	217 (1.7)	20 (1.0)	216 (2.4)	21 (1.5)	204 (2.2)
South Carolina	55 (1.5)	212 (1.5)	20 (0.8)	217 (1.6)	25 (1.4)	205 (1.7)
Tennessee	51 (1.5)	212 (1.6)	26 (1.1)	212 (1.8)	23 (1.2)	200 (1.6)
Texas	57 (1.6)	220 (1.5)	22 (1.0)	217 (1.7)	21 (1.3)	209 (2.2)
Utah	70 (1.6)	225 (0.9)	15 (1.2)	223 (2.1)	15 (1.1)	212 (2.5)
Virginia	64 (1.5)	223 (1.6)	19 (1.0)	219 (1.8)	17 (1.1)	206 (2.0)
West Virginia	60 (1.5)	216 (1.1)	22 (1.0)	215 (1.6)	17 (1.0)	205 (1.9)
Wisconsin	65 (1.5)	229 (1.1)	19 (1.0)	228 (1.6)	16 (1.1)	221 (2.0)
Wyoming	64 (1.7)	226 (1.1)	18 (1.0)	225 (1.9)	18 (1.3)	216 (1.5)
TERRITORY						
Guam	43 (1.1)	193 (1.3)	26 (1.0)	194 (1.7)	31 (0.9)	186 (1.5)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 13.6 | Students' Reports on Number of Pages Read Each Day for School and Homework for All Subjects (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	More than 10 Pages		Six to 10 Pages		Five or Fewer Pages	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	38 (1.0)	270 (1.3)	29 (0.8)	269 (1.4)	32 (1.0)	259 (1.1)
Northeast	35 (1.9)	271 (3.9)	29 (1.7)	275 (3.4)	37 (2.0)	258 (3.4)
Southeast	37 (1.5)	263 (1.7)	26 (1.7)	259 (2.6)	37 (2.2)	253 (2.0)
Central	38 (2.5)	276 (1.9)	34 (2.2)	275 (3.1)	28 (2.0)	268 (3.1)
West	42 (2.3)	271 (3.3)	29 (1.2)	268 (2.9)	30 (1.9)	261 (1.5)
STATES						
Alabama	33 (1.1)	256 (2.1)	32 (1.1)	253 (1.8)	34 (1.3)	246 (2.0)
Arizona	40 (1.5)	268 (1.4) >	28 (0.9)	264 (1.8)	32 (1.1)	261 (1.5)
Arkansas	34 (1.1) »	259 (1.5)	31 (1.2)	257 (1.6)	35 (1.4) «	251 (1.4)
California	42 (1.7)	268 (2.3)	28 (1.0)	259 (1.9)	29 (1.6)	252 (1.8)
Colorado	43 (1.5) >	276 (1.5)	27 (0.9)	272 (1.4)	29 (1.2) <	266 (1.5) >
Connecticut	49 (1.3) »	279 (1.4)	28 (1.1)	272 (1.8)	23 (0.9) <	262 (1.8)
Delaware	32 (1.0)	269 (1.6)	30 (1.1)	265 (1.7)	38 (1.3)	255 (1.7)
Dist. Columbia	26 (1.0)	244 (2.0)	29 (1.2)	240 (1.7)	45 (1.3) <	226 (1.7)
Florida	36 (1.1) >	263 (2.1)	31 (1.1)	261 (1.9)	33 (1.1) «	254 (1.7)
Georgia	38 (1.2)	264 (1.7)	30 (0.9)	261 (1.3)	32 (1.2)	251 (1.4)
Hawaii	40 (0.9) >	260 (1.2) >	27 (0.9)	258 (1.3)	33 (0.9) <	252 (1.7)
Idaho	48 (1.3)	276 (0.9)	27 (0.9)	275 (1.4)	26 (1.0)	271 (1.5)
Indiana	35 (1.2)	275 (1.6)	33 (0.9)	271 (1.4)	32 (1.0)	262 (1.6)
Iowa	47 (1.5)	285 (1.2) >	29 (0.9)	283 (1.4)	24 (1.0)	279 (1.9)
Kentucky	37 (1.3)	267 (1.7)	33 (1.0)	261 (1.4)	30 (1.1)	256 (1.5)
Louisiana	35 (1.2)	255 (1.9)	32 (0.9)	249 (1.6)	33 (1.4)	243 (2.4)
Maine	59 (2.2)	282 (1.0)	22 (1.2)	278 (1.6)	19 (1.3)	268 (1.9)
Maryland	39 (1.7) >	273 (1.7)	28 (1.1)	265 (2.1)	33 (1.4) <	254 (1.7)
Massachusetts	48 (1.6)	279 (1.2)	26 (1.1)	273 (1.7)	26 (1.1)	260 (1.7)
Michigan	36 (1.1) >	272 (1.7)	30 (0.9)	268 (1.6)	34 (1.1) <	260 (1.9)
Minnesota	37 (1.7)	284 (1.4) >	31 (1.1)	283 (1.1) >	32 (1.4)	278 (1.4) >
Mississippi	29 (1.4)	250 (2.0)	30 (1.1)	249 (1.7)	42 (1.4)	241 (1.4)
Missouri	35 (1.0)	273 (1.5)	33 (1.0)	273 (1.6)	32 (1.2)	265 (1.5)
Nebraska	45 (1.8)	280 (1.6)	30 (1.2)	278 (1.3)	25 (1.5)	270 (1.8)
New Hampshire	43 (2.0)	282 (1.3)	29 (1.2)	276 (1.3)	27 (1.4)	273 (1.7) >
New Jersey	44 (1.9)	280 (1.5)	31 (1.4)	269 (2.0)	25 (1.3) «	260 (2.3)
New Mexico	38 (1.1)	261 (1.4)	31 (1.0)	260 (1.4)	31 (1.1)	256 (1.5)
New York	37 (1.8)	274 (2.6)	29 (1.4)	269 (2.4) >	34 (1.4)	256 (2.5)
North Carolina	38 (1.4)	263 (1.8) >	31 (0.9) >	259 (1.4) >	30 (1.2) <	249 (1.6) >
North Dakota	41 (1.4)	285 (1.4)	33 (1.0)	282 (1.5)	26 (1.4)	279 (1.8)
Ohio	41 (1.4) >	273 (1.7)	31 (1.0)	269 (1.9)	28 (1.3)	258 (1.7)
Oklahoma	41 (1.2) >	268 (1.6)	30 (1.1)	269 (1.6)	28 (1.2) <	265 (1.6) >
Pennsylvania	34 (1.5)	274 (2.1)	33 (1.0)	273 (1.7)	33 (1.1)	265 (1.8)
Rhode Island	41 (1.0)	271 (1.1)	30 (1.1)	264 (1.4)	29 (1.1) <	258 (1.3) »
South Carolina	37 (1.2)	263 (1.4)	31 (1.1)	260 (1.5)	32 (1.1)	256 (1.5)
Tennessee	36 (1.1)	266 (1.8)	34 (1.3)	258 (1.7)	29 (1.3)	249 (1.8)
Texas	40 (1.5) >	266 (1.8)	28 (1.0)	266 (1.9)	32 (1.4)	261 (1.8) >
Utah	54 (1.5)	277 (1.0)	24 (1.1)	273 (1.5)	22 (1.1)	269 (1.3)
Virginia	36 (1.4)	275 (1.7)	30 (1.1)	267 (1.5)	34 (1.2)	259 (1.5)
West Virginia	38 (1.1)	262 (1.4)	32 (1.0)	260 (1.4)	30 (1.1) <	253 (1.3)
Wisconsin	42 (2.5)	280 (2.1)	31 (1.3)	279 (1.9)	27 (1.6)	271 (1.8)
Wyoming	42 (1.4)	276 (1.2)	27 (1.1)	274 (1.2)	30 (1.1)	272 (1.3)
TERRITORIES						
Guam	32 (1.4)	244 (1.7) >	30 (1.1)	242 (2.3)	38 (1.6)	226 (1.6)
Virgin Islands	27 (1.3)	224 (1.7)	29 (1.2)	228 (1.6)	44 (1.6) <	218 (1.6)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 13.6 Students' Reports on Number of Pages Read Each Day for School and Homework for All Subjects (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	More than 10 Pages		Six to 10 Pages		Five or Fewer Pages	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	35 (1.3)	267 (1.9)	28 (1.0)	266 (1.9)	37 (1.1)	255 (1.5)
Northeast	39 (4.7)	276 (4.4)	24 (2.4)	271 (5.6)	37 (2.8)	264 (3.1)
Southeast	31 (2.1)	264 (3.8)	31 (2.3)	259 (3.9)	38 (2.2)	243 (1.8)
Central	31 (1.6)	268 (3.5)	31 (2.1)	269 (3.6)	38 (2.0)	261 (3.2)
West	39 (2.5)	263 (3.5)	26 (1.4)	266 (2.8)	35 (2.6)	255 (3.3)
STATES						
Alabama	34 (1.2)	258 (1.5)	30 (1.0)	256 (1.4)	36 (1.4)	246 (1.7)
Arizona	41 (1.2)	262 (1.8)	25 (1.1)	261 (1.9)	34 (1.0)	257 (1.5)
Arkansas	28 (1.1)	260 (1.5)	28 (0.9)	259 (1.3)	44 (1.0)	252 (1.1)
California	42 (1.5)	263 (1.7)	29 (1.1)	256 (1.9)	30 (1.4)	249 (1.8)
Colorado	38 (1.2)	272 (1.3)	29 (1.0)	270 (1.3)	33 (1.2)	261 (1.5)
Connecticut	43 (1.3)	279 (1.2)	29 (0.8)	269 (1.3)	28 (1.2)	258 (1.4)
Delaware	32 (1.0)	268 (1.4)	29 (1.1)	267 (1.7)	39 (1.2)	251 (1.5)
Dist. Columbia	24 (0.9)	238 (2.2)	27 (1.1)	237 (1.8)	49 (0.9)	226 (1.1)
Florida	31 (0.9)	261 (1.7)	30 (0.9)	259 (1.8)	39 (1.2)	249 (1.7)
Georgia	36 (1.0)	264 (1.8)	28 (0.8)	262 (2.3)	35 (1.2)	251 (1.4)
Hawaii	36 (1.0)	255 (1.4)	26 (0.8)	254 (1.5)	38 (1.0)	247 (1.3)
Idaho	48 (1.0)	275 (1.0)	26 (0.9)	271 (1.3)	26 (1.1)	266 (1.3)
Indiana	37 (1.3)	273 (1.4)	33 (1.0)	267 (1.5)	30 (1.3)	262 (1.7)
Iowa	43 (1.6)	280 (1.5)	31 (1.1)	279 (1.3)	27 (1.1)	275 (1.6)
Kentucky	36 (1.0)	264 (1.2)	32 (0.8)	256 (1.8)	32 (1.1)	251 (1.5)
Louisiana	36 (1.2)	254 (1.4)	30 (1.0)	247 (1.5)	34 (1.4)	239 (1.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	34 (1.4)	269 (1.8)	27 (0.9)	262 (1.9)	39 (1.5)	254 (1.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	31 (1.3)	269 (1.8)	30 (0.9)	267 (1.4)	38 (1.2)	259 (1.7)
Minnesota	36 (1.5)	278 (1.4)	30 (1.1)	277 (1.4)	34 (1.3)	272 (1.4)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	42 (1.4)	278 (1.4)	33 (1.0)	276 (1.9)	25 (0.9)	271 (1.8)
New Hampshire	40 (1.0)	280 (1.7)	30 (1.0)	273 (1.2)	30 (1.0)	266 (1.3)
New Jersey	41 (1.4)	276 (1.4)	28 (0.8)	272 (1.4)	31 (1.2)	260 (1.8)
New Mexico	40 (1.0)	260 (1.3)	26 (1.1)	258 (1.4)	32 (0.9)	253 (1.3)
New York	35 (1.3)	269 (2.0)	32 (1.0)	261 (1.7)	34 (1.2)	254 (1.9)
North Carolina	37 (1.3)	256 (1.6)	28 (1.0)	252 (1.6)	35 (1.3)	243 (1.2)
North Dakota	41 (1.5)	283 (1.7)	32 (1.1)	282 (1.6)	28 (1.4)	278 (2.0)
Ohio	36 (1.1)	270 (1.5)	32 (1.0)	265 (1.6)	31 (1.1)	256 (1.3)
Oklahoma	37 (1.3)	266 (1.6)	30 (1.0)	265 (1.7)	33 (1.2)	259 (1.7)
Pennsylvania	34 (1.3)	272 (2.2)	29 (1.1)	269 (1.6)	37 (1.4)	259 (1.9)
Rhode Island	38 (1.1)	270 (1.2)	28 (0.8)	261 (1.2)	34 (1.0)	249 (1.1)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	34 (1.1)	263 (1.9)	30 (0.9)	260 (1.7)	36 (1.2)	253 (1.7)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	33 (1.4)	272 (2.3)	30 (1.1)	267 (1.9)	37 (1.4)	255 (1.6)
West Virginia	36 (1.3)	262 (1.6)	30 (1.0)	255 (1.6)	34 (1.1)	250 (1.3)
Wisconsin	38 (1.4)	279 (1.6)	32 (1.1)	274 (1.4)	30 (1.3)	270 (1.9)
Wyoming	43 (1.0)	275 (0.8)	27 (0.9)	272 (1.3)	30 (1.1)	268 (1.3)
TERRITORIES						
Guam	32 (1.0)	238 (1.9)	30 (1.2)	237 (1.4)	38 (1.2)	228 (1.5)
Virgin Islands	23 (0.8)	220 (1.9)	26 (1.2)	228 (2.0)	51 (1.2)	215 (1.1)

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TABLE 13.7 Students' Reports on Days Absent from School During the Last Month, Grades 8 and 12

	Assessment Years	Three or More Days		One or Two Days		None	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 8	1992	22 (0.5)	258 (1.3)>	34 (0.8)	270 (1.0)	44 (0.9)	272 (1.0)>
	1990	22 (1.0)	251 (1.8)	32 (0.9)	267 (1.4)	45 (1.1)	266 (1.6)
Grade 12	1992	26 (0.9)<	288 (1.4)	39 (0.7)	301 (1.2)	35 (0.9)>	304 (1.0)
	1990	31 (1.2)	286 (1.6)	38 (1.3)	296 (1.7)	31 (1.3)	301 (1.6)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 13.8 | Students' Reports on Days Absent from School During the Last Month

PUBLIC SCHOOLS	Grade 8 - 1992					
	Three Days or More		One or Two Days		None	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (0.6)	257 (1.4)	34 (0.9)	268 (1.1)	42 (1.0)	271 (1.1)
Northeast	27 (1.7)	260 (3.7)	35 (2.6)	269 (2.4)	38 (2.3)	271 (3.7)
Southeast	21 (1.2)	244 (1.6)	35 (1.1)	261 (1.7)	44 (1.9)	264 (1.8)
Central	22 (0.9)	265 (3.7)	35 (2.0)	274 (2.9)	43 (1.9)	277 (1.6)
West	24 (1.1)	257 (2.6)	33 (1.4)	270 (2.2)	44 (1.9)	271 (2.5)
STATES						
Alabama	18 (0.9)	240 (2.6)	32 (1.1)	255 (2.0)	50 (1.1)	254 (1.7)
Arizona	26 (1.0)	255 (1.8)	35 (0.9)	269 (1.6) >	40 (1.2)	267 (1.4)
Arkansas	23 (1.0)	245 (1.9)	34 (0.8)	257 (1.5)	43 (1.0)	260 (1.6)
California	24 (0.9) <	250 (2.3)	34 (1.0)	262 (1.9)	42 (1.2)	267 (1.8)
Colorado	24 (0.9)	263 (1.7)	34 (0.9)	274 (1.5) >	42 (1.2)	275 (1.1)
Connecticut	21 (0.9)	259 (1.6)	35 (1.1)	276 (1.5)	44 (1.3)	278 (1.6)
Delaware	29 (1.0)	250 (1.4)	33 (1.0)	266 (1.5)	38 (1.3)	269 (1.8)
Dist. Columbia	34 (1.1)	230 (1.6)	32 (1.2)	236 (1.5)	34 (1.3)	238 (1.9)
Florida	25 (1.1)	249 (2.2)	33 (1.1)	263 (2.0)	42 (1.1)	263 (1.6)
Georgia	23 (0.9)	248 (1.8)	32 (1.0)	261 (1.4)	46 (1.2)	263 (1.7)
Hawaii	25 (0.8)	243 (1.7)	31 (0.9)	258 (1.5)	45 (1.0)	264 (1.2) »
Idaho	21 (1.0)	265 (1.8)	37 (1.2)	276 (1.1)	42 (1.2)	278 (1.1) »
Indiana	19 (0.9) <	255 (2.1)	33 (0.9)	267 (1.4)	48 (1.3) »	277 (1.4)
Iowa	16 (0.7) <	271 (1.6)	32 (1.0)	282 (1.4) >	52 (1.1) »	287 (1.1) >
Kentucky	21 (0.9)	249 (1.9)	33 (1.0)	261 (1.4)	46 (0.9)	268 (1.4) >
Louisiana	24 (1.0)	241 (2.2)	36 (1.1)	251 (1.7)	39 (1.2)	253 (1.9)
Maine	17 (0.8)	267 (1.8)	35 (1.0)	279 (1.5)	47 (1.1)	282 (1.3)
Maryland	23 (1.1) <	250 (1.8)	35 (1.0)	269 (1.7) >	42 (1.1) »	268 (1.6)
Massachusetts	23 (1.0)	259 (2.0)	35 (1.1)	273 (1.6)	42 (1.2)	279 (1.2)
Michigan	24 (1.0)	255 (1.7)	33 (1.1)	268 (1.6)	43 (1.2)	273 (1.9)
Minnesota	16 (0.7) «	272 (1.9) >	34 (0.9)	282 (1.5)	50 (1.1) »	285 (1.0) »
Mississippi	20 (0.9)	237 (1.8)	31 (1.0)	248 (2.0)	49 (0.9)	248 (1.1)
Missouri	21 (0.9)	258 (1.9)	33 (1.0)	273 (1.4)	46 (1.1)	275 (1.3)
Nebraska	17 (0.9)	266 (2.1)	34 (0.9)	277 (1.4)	49 (1.1)	281 (1.5)
New Hampshire	20 (0.9)	267 (1.7) >	38 (1.1)	279 (1.3)	42 (1.0)	281 (1.3)
New Jersey	22 (1.1)	261 (2.5)	36 (1.2)	274 (1.8)	42 (1.3)	275 (1.9)
New Mexico	29 (1.0)	248 (1.4)	36 (0.9)	262 (1.2)	35 (1.0)	265 (1.3)
New York	25 (1.3)	252 (3.1)	32 (1.2)	269 (2.3)	43 (1.3)	273 (2.2)
North Carolina	21 (0.9) «	248 (1.7) >	33 (1.1)	260 (1.6) >	46 (1.0) >	260 (1.5) »
North Dakota	14 (0.8)	273 (2.4)	35 (1.2)	284 (1.6)	52 (1.2)	284 (1.5)
Ohio	21 (1.2)	254 (2.1)	34 (1.1)	268 (1.8)	45 (1.3)	274 (1.7) >
Oklahoma	18 (0.9) <	260 (2.0)	33 (1.2)	269 (1.5)	49 (1.4)	270 (1.3)
Pennsylvania	21 (0.8)	259 (2.3)	34 (1.1)	270 (1.8)	45 (1.1) >	277 (1.4) >
Rhode Island	23 (1.1) <	253 (1.7)	36 (1.1)	267 (1.3)	41 (1.6)	271 (1.1) »
South Carolina	18 (0.8)	251 (1.9)	32 (1.0)	261 (1.3)	50 (1.2)	263 (1.3)
Tennessee	22 (1.0)	247 (1.8)	36 (1.0)	260 (1.7)	41 (1.0)	263 (1.6)
Texas	19 (0.8)	251 (2.6)	31 (1.1)	264 (1.6)	51 (1.2)	269 (1.5) »
Utah	23 (0.8)	266 (1.5)	36 (1.0)	275 (1.1)	41 (1.0)	278 (1.0)
Virginia	22 (1.0)	256 (1.7)	34 (0.9)	271 (1.5)	44 (1.3)	270 (1.5)
West Virginia	25 (1.0)	245 (1.4)	36 (1.1)	261 (1.3)	40 (1.2)	265 (1.3) >
Wisconsin	17 (0.9) <	265 (2.7)	35 (1.0)	279 (1.6)	47 (1.0) >	281 (1.5)
Wyoming	21 (0.9)	263 (1.4)	35 (1.0)	276 (1.1) >	44 (1.1)	279 (1.0)
TERRITORIES						
Guam	37 (1.3) »	229 (1.7) »	30 (1.0)	240 (2.1)	33 (1.2) «	244 (1.9)
Virgin Islands	24 (0.9)	218 (1.9)	30 (1.1)	223 (1.8)	46 (1.3)	225 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 13.8 | Students' Reports on Days Absent from School During the Last Month (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Three Days or More		One or Two Days		None	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	23 (1.1)	250 (1.8)	32 (0.9)	267 (1.5)	45 (1.1)	265 (1.7)
Northeast	21 (3.0)	255 (5.1)	37 (3.1)	271 (2.6)	43 (2.2)	277 (3.5)
Southeast	22 (1.5)	245 (3.6)	32 (1.7)	262 (2.6)	46 (1.8)	254 (3.1)
Central	23 (2.0)	252 (3.6)	30 (2.0)	269 (3.4)	47 (1.7)	268 (2.3)
West	27 (1.8)	250 (3.1)	30 (1.4)	265 (3.1)	43 (2.7)	265 (3.3)
STATES						
Alabama	18 (1.0)	246 (2.0)	34 (1.0)	254 (1.5)	48 (1.3)	255 (1.6)
Arizona	26 (1.0)	252 (2.0)	34 (1.0)	262 (1.7)	40 (1.0)	264 (1.5)
Arkansas	23 (1.0)	247 (1.9)	36 (1.0)	258 (1.2)	42 (1.1)	260 (1.3)
California	28 (1.3)	246 (1.7)	33 (1.1)	259 (1.7)	39 (0.9)	263 (1.8)
Colorado	25 (0.9)	258 (1.4)	35 (1.0)	268 (1.3)	40 (0.9)	272 (1.2)
Connecticut	22 (0.9)	257 (2.1)	37 (1.1)	274 (1.4)	41 (1.1)	274 (1.2)
Delaware	28 (1.1)	251 (1.9)	34 (1.1)	264 (1.6)	38 (1.3)	265 (1.6)
Dist. Columbia	37 (1.2)	225 (1.3)	30 (1.3)	234 (1.8)	33 (1.1)	237 (1.2)
Florida	27 (1.0)	245 (1.7)	33 (1.0)	259 (1.6)	41 (1.1)	260 (1.6)
Georgia	22 (1.0)	250 (1.7)	34 (0.9)	265 (1.8)	43 (1.1)	260 (1.7)
Hawaii	26 (0.8)	239 (1.5)	30 (0.8)	255 (1.5)	44 (0.9)	258 (1.1)
Idaho	21 (1.0)	267 (1.6)	36 (1.0)	273 (1.1)	43 (1.0)	273 (1.1)
Indiana	23 (0.9)	256 (1.9)	35 (0.9)	269 (1.4)	42 (1.1)	272 (1.5)
Iowa	20 (0.9)	269 (2.3)	35 (1.0)	277 (1.4)	45 (1.3)	283 (1.2)
Kentucky	23 (0.9)	247 (1.7)	33 (0.7)	259 (1.4)	44 (1.0)	262 (1.5)
Louisiana	27 (1.0)	241 (2.0)	35 (0.9)	248 (1.3)	39 (1.0)	250 (1.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	27 (1.0)	251 (1.9)	36 (0.9)	264 (1.6)	37 (1.1)	266 (1.8)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	25 (1.0)	252 (1.7)	35 (1.0)	268 (1.6)	41 (1.2)	270 (1.4)
Minnesota	20 (0.9)	265 (1.5)	36 (1.0)	278 (1.4)	44 (1.0)	279 (1.1)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	19 (0.7)	267 (1.6)	35 (1.5)	278 (1.2)	46 (1.3)	278 (1.4)
New Hampshire	22 (1.2)	261 (1.7)	39 (1.3)	276 (1.3)	39 (1.2)	279 (1.0)
New Jersey	23 (1.0)	260 (1.9)	35 (1.1)	272 (1.5)	41 (1.2)	274 (1.2)
New Mexico	27 (1.0)	246 (1.4)	37 (1.1)	260 (1.4)	36 (1.0)	262 (1.0)
New York	29 (1.3)	253 (2.3)	30 (1.0)	264 (2.1)	41 (1.1)	267 (1.5)
North Carolina	25 (0.9)	243 (1.5)	32 (0.9)	255 (1.2)	42 (1.1)	253 (1.5)
North Dakota	14 (1.0)	270 (3.1)	36 (1.2)	281 (1.3)	50 (1.2)	285 (1.4)
Ohio	22 (0.9)	254 (1.5)	35 (1.1)	265 (1.3)	42 (1.2)	268 (1.3)
Oklahoma	22 (1.0)	257 (1.9)	33 (0.9)	264 (1.5)	45 (1.2)	266 (1.6)
Pennsylvania	24 (1.0)	254 (2.2)	35 (1.1)	270 (1.9)	41 (1.1)	271 (1.6)
Rhode Island	28 (0.9)	251 (1.4)	33 (0.9)	264 (1.2)	39 (1.1)	265 (1.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	18 (0.9)	250 (2.0)	33 (0.9)	260 (1.8)	49 (1.0)	261 (1.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	24 (0.9)	253 (1.9)	35 (0.8)	268 (1.9)	41 (1.1)	269 (1.7)
West Virginia	25 (1.0)	247 (1.9)	35 (0.9)	258 (1.3)	40 (1.2)	260 (1.3)
Wisconsin	21 (1.0)	264 (2.0)	37 (1.3)	276 (1.6)	42 (1.5)	279 (1.5)
Wyoming	23 (0.8)	265 (1.2)	35 (0.8)	272 (1.2)	42 (0.9)	276 (0.7)
TERRITORIES						
Guam	28 (1.0)	216 (1.9)	29 (1.2)	236 (2.1)	43 (1.1)	245 (1.3)
Virgin Islands	22 (1.2)	214 (1.9)	29 (1.2)	218 (1.7)	50 (1.5)	223 (1.2)

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TABLE 13.9 Students' Reports on Extent to Which They Discuss Schoolwork with Someone at Home, Grades 4, 8, and 12

	Almost Every Day		At Least Weekly		Never or Hardly Ever	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	54 (0.7)	220 (0.9)	21 (0.6)	225 (0.9)	25 (0.5)	211 (1.2)
Grade 8	40 (0.9)	273 (1.3)	28 (0.6)	272 (1.0)	32 (0.7)	261 (1.0)
Grade 12	30 (0.7)	302 (1.3)	33 (0.6)	301 (1.1)	37 (0.7)	295 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 13.10 | Students' Reports on Extent to Which They Discuss Schoolwork with Someone at Home

PUBLIC SCHOOLS	Grade 4 - 1992					
	Almost Every Day		At Least Weekly		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	53 (0.7)	219 (1.0)	21 (0.6)	224 (1.1)	26 (0.6)	210 (1.3)
Northeast	55 (1.8)	225 (2.9)	21 (0.9)	228 (2.9)	24 (1.4)	213 (2.2)
Southeast	53 (1.4)	208 (2.1)	20 (1.3)	217 (2.4)	27 (1.1)	202 (2.5)
Central	53 (1.5)	223 (2.1)	21 (1.5)	229 (2.5)	25 (1.3)	215 (3.4)
West	53 (1.4)	219 (1.7)	20 (1.1)	221 (1.7)	27 (1.0)	210 (2.4)
STATES						
Alabama	54 (1.3)	207 (1.6)	21 (0.8)	212 (2.0)	25 (1.3)	203 (2.3)
Arizona	50 (1.1)	216 (1.3)	22 (1.0)	218 (1.6)	28 (1.1)	207 (1.7)
Arkansas	50 (1.2)	208 (0.9)	22 (0.9)	218 (1.6)	29 (1.0)	202 (1.6)
California	51 (1.2)	210 (2.0)	24 (0.9)	208 (2.1)	25 (1.1)	199 (2.0)
Colorado	55 (1.0)	223 (1.0)	21 (0.8)	224 (1.8)	23 (0.8)	210 (1.4)
Connecticut	55 (1.2)	228 (1.2)	24 (0.9)	229 (1.7)	22 (1.0)	217 (1.8)
Delaware	55 (1.2)	218 (1.2)	22 (0.9)	219 (1.6)	23 (0.9)	211 (1.7)
Dist. Columbia	65 (0.9)	191 (0.8)	20 (0.8)	197 (1.5)	15 (0.8)	184 (1.8)
Florida	56 (1.2)	214 (1.8)	22 (0.7)	216 (1.9)	22 (1.0)	205 (2.1)
Georgia	55 (1.3)	214 (1.3)	23 (1.0)	219 (2.2)	22 (1.0)	209 (1.7)
Hawaii	45 (1.3)	215 (1.6)	25 (1.1)	218 (1.7)	30 (1.1)	206 (1.8)
Idaho	48 (1.2)	222 (1.2)	24 (0.9)	224 (1.4)	28 (1.1)	214 (1.6)
Indiana	55 (1.0)	220 (1.3)	22 (0.9)	225 (1.4)	23 (0.8)	214 (1.7)
Iowa	52 (1.2)	231 (1.1)	25 (0.9)	232 (1.6)	23 (1.0)	221 (1.5)
Kentucky	53 (1.1)	214 (1.3)	22 (0.8)	218 (1.7)	25 (0.9)	208 (1.3)
Louisiana	54 (1.0)	202 (1.4)	22 (0.9)	208 (2.1)	23 (1.0)	200 (2.1)
Maine	46 (1.6)	233 (1.5)	29 (1.0)	233 (1.6)	24 (1.3)	224 (1.2)
Maryland	55 (1.1)	217 (1.5)	22 (0.9)	223 (1.7)	23 (0.9)	208 (2.1)
Massachusetts	56 (1.2)	227 (1.2)	24 (0.8)	228 (1.7)	20 (1.1)	219 (2.2)
Michigan	54 (1.2)	219 (1.7)	23 (1.1)	227 (2.3)	24 (1.3)	211 (2.5)
Minnesota	51 (1.0)	230 (1.1)	25 (0.9)	230 (1.7)	24 (0.9)	221 (1.8)
Mississippi	56 (1.4)	201 (1.3)	20 (1.1)	204 (1.8)	24 (1.1)	196 (1.6)
Missouri	51 (1.4)	223 (1.4)	22 (1.0)	224 (1.7)	27 (1.2)	215 (1.9)
Nebraska	55 (1.3)	227 (1.5)	23 (1.1)	227 (1.7)	22 (1.0)	215 (1.5)
New Hampshire	55 (1.3)	231 (1.3)	24 (1.0)	233 (1.8)	20 (1.0)	219 (1.8)
New Jersey	58 (1.5)	227 (1.8)	23 (1.1)	231 (1.7)	19 (1.2)	217 (2.4)
New Mexico	52 (1.3)	214 (2.1)	21 (0.9)	215 (2.1)	27 (1.4)	205 (1.7)
New York	55 (1.4)	217 (1.6)	23 (1.1)	222 (1.6)	22 (1.0)	212 (2.2)
North Carolina	55 (1.1)	212 (1.4)	21 (0.7)	215 (1.7)	24 (1.0)	207 (1.8)
North Dakota	52 (1.5)	229 (1.1)	25 (1.4)	230 (1.1)	22 (1.2)	221 (1.3)
Ohio	54 (1.4)	220 (1.4)	21 (0.9)	220 (1.6)	25 (1.4)	211 (1.6)
Oklahoma	52 (1.2)	221 (1.2)	21 (0.9)	221 (1.8)	27 (1.1)	214 (1.4)
Pennsylvania	57 (0.9)	224 (1.6)	25 (0.8)	227 (1.7)	18 (0.7)	215 (1.8)
Rhode Island	53 (1.4)	215 (1.8)	24 (1.0)	217 (1.6)	24 (1.3)	209 (2.5)
South Carolina	56 (1.1)	213 (1.4)	21 (0.9)	213 (1.6)	23 (1.1)	204 (1.5)
Tennessee	55 (1.1)	211 (1.5)	21 (0.9)	214 (2.0)	24 (0.9)	202 (1.9)
Texas	51 (1.2)	219 (1.5)	22 (1.0)	219 (1.8)	27 (1.2)	211 (1.5)
Utah	50 (1.0)	224 (1.0)	24 (0.9)	227 (1.4)	26 (1.1)	217 (1.7)
Virginia	57 (1.1)	220 (1.6)	22 (0.8)	226 (1.7)	22 (1.0)	212 (1.7)
West Virginia	54 (1.2)	215 (1.3)	22 (0.8)	218 (1.5)	25 (0.9)	209 (1.5)
Wisconsin	52 (1.2)	228 (1.3)	26 (0.9)	231 (1.6)	22 (1.2)	222 (1.8)
Wyoming	56 (1.2)	226 (1.0)	20 (1.0)	228 (1.5)	24 (1.0)	217 (1.6)
TERRITORY						
Guam	39 (1.2)	191 (1.1)	26 (1.0)	195 (1.6)	35 (1.3)	188 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 13.10 | Students' Reports on Extent to Which They Discuss Schoolwork with Someone at Home (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Almost Every Day		At Least Weekly		Never or Hardly Ever	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	39 (0.9)	271 (1.5)	28 (0.6)	270 (1.1)	33 (0.7)	259 (1.1)
Northeast	41 (2.0)	274 (4.2)	26 (1.3)	270 (3.0)	32 (1.8)	257 (3.3)
Southeast	37 (1.0)	260 (1.9)	28 (1.0)	263 (1.8)	35 (1.4)	254 (1.4)
Central	39 (2.0)	276 (2.8)	27 (1.4)	278 (2.0)	33 (1.7)	268 (2.0)
West	41 (2.1)	273 (2.4)	28 (1.5)	271 (2.7)	31 (1.3)	258 (2.5)
STATES						
Alabama	37 (1.0)	253 (1.9)	29 (0.9)	255 (2.2)	34 (1.0)	248 (1.8)
Arizona	39 (1.4)	270 (1.5)	27 (1.1)	267 (1.7)	34 (1.1)	259 (1.5)
Arkansas	38 (1.0)	258 (1.5)	26 (0.9)	261 (1.7)	36 (1.0)	251 (1.5)
California	40 (1.1)	268 (1.8)	30 (1.0)	262 (2.2)	30 (0.9)	254 (1.7)
Colorado	46 (1.1)	275 (1.2)	28 (0.9)	275 (1.4)	27 (0.9)	264 (1.6)
Connecticut	39 (1.0)	277 (1.5)	30 (1.0)	276 (1.7)	31 (1.0)	267 (1.5)
Delaware	37 (1.1)	267 (1.5)	30 (1.2)	265 (1.8)	34 (1.1)	257 (1.8)
Dist. Columbia	44 (1.1)	236 (1.6)	29 (1.1)	237 (1.6)	27 (1.1)	232 (2.2)
Florida	39 (1.1)	263 (1.8)	28 (0.9)	261 (1.9)	33 (1.2)	256 (1.7)
Georgia	38 (1.2)	263 (1.5)	30 (1.1)	261 (1.5)	33 (0.9)	254 (1.8)
Hawaii	31 (0.8)	263 (1.5)	29 (0.8)	260 (1.9)	40 (0.9)	253 (1.3)
Idaho	43 (1.0)	277 (1.0)	28 (1.0)	279 (1.2)	29 (1.0)	268 (1.4)
Indiana	40 (1.0)	272 (1.5)	29 (0.9)	273 (1.7)	31 (0.9)	263 (1.5)
Iowa	39 (1.1)	286 (1.3)	29 (0.9)	286 (1.2)	32 (0.9)	276 (1.5)
Kentucky	39 (1.2)	266 (1.6)	29 (0.9)	263 (1.2)	32 (1.0)	256 (1.7)
Louisiana	39 (1.1)	250 (2.0)	29 (1.0)	251 (1.9)	32 (1.2)	249 (1.8)
Maine	41 (1.1)	282 (1.5)	28 (0.9)	279 (1.2)	30 (1.0)	273 (1.4)
Maryland	41 (1.2)	267 (1.8)	29 (1.0)	265 (1.8)	30 (1.2)	263 (1.6)
Massachusetts	43 (1.2)	277 (1.3)	27 (1.0)	276 (1.6)	31 (1.1)	264 (1.6)
Michigan	41 (1.2)	268 (1.8)	28 (1.0)	268 (2.0)	31 (0.9)	267 (1.7)
Minnesota	39 (1.2)	285 (1.4)	31 (1.1)	283 (1.4)	31 (1.1)	278 (1.6)
Mississippi	40 (1.2)	247 (1.6)	30 (1.1)	248 (1.7)	30 (1.2)	244 (1.7)
Missouri	41 (1.1)	274 (1.5)	26 (0.9)	273 (1.6)	33 (1.2)	266 (1.3)
Nebraska	40 (1.3)	280 (1.4)	29 (1.1)	280 (1.5)	31 (1.2)	272 (1.6)
New Hampshire	42 (1.4)	281 (1.4)	30 (0.9)	280 (1.5)	29 (1.0)	271 (1.4)
New Jersey	40 (1.2)	274 (1.7)	31 (1.2)	274 (1.9)	29 (0.9)	267 (2.1)
New Mexico	39 (1.3)	262 (1.4)	27 (0.9)	259 (1.5)	34 (1.0)	256 (1.3)
New York	43 (1.5)	272 (2.2)	28 (1.0)	268 (2.8)	28 (1.2)	259 (2.7)
North Carolina	40 (1.1)	263 (1.5)	30 (0.9)	258 (1.5)	30 (0.9)	253 (1.6)
North Dakota	35 (1.0)	284 (1.4)	30 (0.9)	284 (1.6)	35 (1.1)	280 (1.5)
Ohio	39 (1.1)	271 (1.7)	31 (0.9)	273 (2.2)	30 (1.1)	259 (1.7)
Oklahoma	40 (1.1)	270 (1.5)	27 (1.0)	273 (2.0)	33 (0.9)	261 (1.4)
Pennsylvania	42 (1.4)	274 (1.9)	29 (1.0)	271 (1.9)	29 (1.1)	266 (1.9)
Rhode Island	39 (1.2)	269 (1.3)	27 (1.0)	267 (1.4)	34 (1.1)	262 (1.3)
South Carolina	44 (1.0)	263 (1.3)	28 (0.8)	260 (1.5)	29 (1.0)	257 (1.2)
Tennessee	39 (1.0)	259 (1.5)	32 (1.2)	261 (1.8)	29 (1.0)	255 (2.1)
Texas	41 (1.2)	268 (1.7)	28 (0.9)	267 (1.9)	31 (1.1)	258 (1.6)
Utah	45 (1.1)	276 (1.1)	29 (1.1)	277 (1.3)	27 (1.1)	268 (1.4)
Virginia	43 (0.9)	272 (1.3)	28 (0.9)	269 (1.8)	29 (1.2)	260 (1.5)
West Virginia	38 (1.0)	262 (1.2)	26 (0.9)	263 (1.3)	35 (0.9)	252 (1.4)
Wisconsin	37 (1.3)	281 (2.2)	32 (0.8)	279 (1.5)	32 (1.4)	273 (1.8)
Wyoming	43 (0.8)	278 (1.1)	27 (0.9)	277 (1.1)	30 (0.9)	268 (1.5)
TERRITORIES						
Guam	26 (1.0)	244 (2.3)	30 (0.9)	242 (1.6)	44 (0.9)	236 (1.9)
Virgin Islands	36 (1.7)	223 (2.0)	26 (1.2)	226 (1.9)	38 (1.7)	221 (1.4)

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TABLE 13.11 Students' Reports on Number of Parents Living at Home, Grades 4, 8, and 12

	Assessment Years	Both Parents		Single Parent		Neither Parent	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	**1992**	77 (0.7)	223 (0.8)>	19 (0.6)	208 (1.2)	4 (0.3)	193 (2.5)
	1990	76 (0.9)	217 (1.0)	20 (0.8)	204 (1.4)	4 (0.4)	192 (3.5)
Grade 8	**1992**	76 (0.6)	274 (1.0)>	21 (0.6)	260 (1.3)	3 (0.2)	246 (3.0)
	1990	76 (0.9)	267 (1.3)	21 (0.9)	256 (1.6)	3 (0.3)	240 (4.7)
Grade 12	**1992**	77 (0.7)	303 (1.0)>	19 (0.6)	292 (1.4)	4 (0.3)	281 (2.4)
	1990	76 (0.9)	298 (1.3)	19 (0.9)	289 (1.9)	5 (0.4)	282 (4.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 13.12 | Students' Reports on Number of Parents Living at Home

PUBLIC SCHOOLS	Grade 4 - 1992					
	Both Parents		Single Parent		Neither Parent	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	76 (0.7)	222 (0.9)	20 (0.7)	206 (1.4)	5 (0.3)	192 (2.5)
Northeast	76 (2.0)	227 (2.5)	19 (1.7)	212 (3.4)	5 (1.0)	*** (***)
Southeast	73 (1.2)	213 (2.0)	21 (1.4)	199 (2.4)	6 (0.7)	186 (4.2)
Central	78 (1.4)	226 (1.9)	18 (1.4)	209 (3.9)	4 (0.4)	*** (***)
West	75 (1.7)	221 (2.0)	20 (1.4)	207 (1.9)	4 (0.5)	192 (4.7)
STATES						
Alabama	73 (1.2)	211 (1.7)	22 (1.0)	199 (1.5)	5 (0.5)	186 (3.5)
Arizona	75 (1.0)	217 (1.2)	20 (0.8)	208 (1.6)	5 (0.5)	198 (4.3)
Arkansas	75 (1.0)	212 (1.0)	20 (0.9)	200 (1.9)	5 (0.5)	197 (3.5)
California	76 (1.1)	211 (1.7)	18 (0.9)	199 (2.1)	6 (0.5)	184 (3.7)
Colorado	79 (1.1)	223 (1.1)	18 (1.0)	212 (1.5)	4 (0.4)	193 (3.0)
Connecticut	78 (1.0)	231 (1.1)	18 (0.9)	211 (1.9)	4 (0.4)	198 (4.0)
Delaware	75 (0.8)	221 (0.9)	21 (0.9)	205 (2.0)	5 (0.5)	198 (3.6)
Dist. Columbia	49 (1.0)	196 (0.8)	42 (0.9)	189 (1.1)	9 (0.5)	178 (2.1)
Florida	73 (1.1)	217 (1.4)	22 (1.0)	203 (2.6)	5 (0.5)	187 (3.1)
Georgia	72 (1.4)	219 (1.3)	23 (1.2)	203 (1.8)	4 (0.5)	195 (3.4)
Hawaii	75 (1.1)	216 (1.4)	17 (1.0)	207 (2.0)	7 (0.6)	194 (2.6)
Idaho	83 (1.0)	223 (1.0)	14 (0.8)	212 (1.9)	3 (0.4)	199 (3.0)
Indiana	78 (0.9)	223 (1.1)	19 (0.9)	211 (1.6)	3 (0.4)	197 (4.0)
Iowa	83 (0.8)	231 (1.1)	14 (0.8)	220 (1.7)	2 (0.3)	203 (3.8)
Kentucky	78 (1.0)	216 (1.1)	18 (0.9)	207 (1.7)	4 (0.4)	196 (4.1)
Louisiana	72 (1.3)	207 (1.3)	23 (1.1)	195 (2.2)	5 (0.5)	179 (3.5)
Maine	81 (1.2)	232 (1.0)	17 (1.2)	226 (1.9)	2 (0.3)	*** (***)
Maryland	72 (1.0)	221 (1.3)	23 (0.9)	205 (2.0)	5 (0.4)	193 (3.3)
Massachusetts	80 (0.9)	229 (1.2)	16 (0.9)	216 (1.8)	4 (0.4)	193 (3.9)
Michigan	75 (1.1)	224 (1.6)	22 (1.0)	205 (2.3)	3 (0.4)	189 (4.8)
Minnesota	81 (0.9)	230 (0.9)	15 (0.7)	221 (1.8)	4 (0.5)	203 (3.8)
Mississippi	70 (1.1)	204 (1.2)	25 (1.1)	194 (1.6)	5 (0.5)	182 (3.1)
Missouri	78 (1.1)	224 (1.3)	19 (0.9)	212 (1.4)	3 (0.4)	198 (5.0)
Nebraska	82 (1.0)	227 (1.2)	15 (0.9)	215 (2.2)	2 (0.3)	*** (***)
New Hampshire	83 (1.0)	230 (1.2)	15 (1.0)	222 (1.9)	2 (0.3)	*** (***)
New Jersey	79 (1.2)	231 (1.4)	18 (1.1)	211 (2.6)	3 (0.5)	203 (3.5)
New Mexico	76 (1.0)	214 (1.5)	20 (0.7)	207 (2.2)	5 (0.5)	191 (3.6)
New York	77 (1.1)	222 (1.2)	19 (0.8)	208 (1.9)	4 (0.6)	190 (3.6)
North Carolina	73 (1.1)	216 (1.1)	23 (1.0)	202 (1.7)	5 (0.4)	189 (3.6)
North Dakota	85 (0.8)	229 (0.9)	12 (0.7)	220 (1.8)	2 (0.3)	*** (***)
Ohio	77 (1.2)	222 (1.1)	20 (1.1)	206 (1.9)	4 (0.4)	196 (3.7)
Oklahoma	77 (1.2)	221 (1.1)	20 (1.0)	215 (1.5)	3 (0.4)	206 (3.2)
Pennsylvania	77 (1.1)	227 (1.4)	19 (0.9)	212 (1.9)	4 (0.6)	197 (3.9)
Rhode Island	77 (1.3)	218 (1.4)	19 (1.1)	205 (2.2)	4 (0.5)	187 (4.8)
South Carolina	72 (1.1)	216 (1.2)	23 (1.0)	201 (1.4)	5 (0.4)	190 (3.0)
Tennessee	72 (1.2)	213 (1.3)	23 (1.2)	201 (2.2)	4 (0.4)	188 (3.5)
Texas	77 (1.2)	220 (1.2)	18 (1.0)	210 (2.1)	5 (0.6)	194 (3.8)
Utah	85 (1.0)	225 (0.9)	13 (0.9)	214 (2.3)	2 (0.3)	190 (4.7)
Virginia	76 (0.9)	224 (1.4)	21 (0.9)	207 (1.5)	3 (0.3)	197 (3.8)
West Virginia	80 (1.0)	216 (1.1)	17 (0.9)	209 (1.6)	4 (0.4)	197 (3.5)
Wisconsin	81 (0.9)	230 (1.0)	16 (0.8)	219 (1.8)	3 (0.3)	205 (5.0)
Wyoming	82 (0.9)	226 (0.9)	16 (0.8)	216 (1.8)	3 (0.4)	208 (3.2)
TERRITORY						
Guam	75 (0.8)	195 (1.1)	16 (0.8)	186 (1.9)	9 (0.6)	167 (2.7)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 13.12 | Students' Reports on Number of Parents Living at Home (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Both Parents		Single Parent		Neither Parent	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	75 (0.6)	272 (1.1)	22 (0.7)	259 (1.4)	3 (0.2)	244 (3.2)
Northeast	75 (1.5)	274 (3.1)	22 (1.7)	257 (2.8)	2 (0.4)	*** (***)
Southeast	71 (0.9)	264 (1.5)	25 (1.0)	251 (1.8)	4 (0.5)	*** (***)
Central	79 (1.9)	278 (1.8)	19 (2.0)	264 (3.3)	2 (0.4)	*** (***)
West	75 (1.2)	272 (2.1)	22 (1.1)	264 (3.9)	3 (0.5)	240 (5.3)
STATES						
Alabama	72 (1.2)	258 (1.7)	24 (1.1)	244 (2.2)	3 (0.4)	233 (4.2)
Arizona	76 (1.0)	269 (1.3) >	22 (1.0)	264 (1.5) >	3 (0.3)	241 (4.3)
Arkansas	75 (0.9)	261 (1.2)	21 (0.8)	248 (2.1)	4 (0.4)	241 (3.8)
California	74 (1.0) <	268 (1.7) >	22 (0.9)	259 (2.1)	4 (0.5) »	244 (4.4)
Colorado	77 (1.0)	275 (1.0) »	21 (1.0)	268 (1.7)	2 (0.2)	*** (***)
Connecticut	79 (0.9)	279 (1.2) >	19 (0.9)	263 (1.7)	2 (0.3)	*** (***)
Delaware	73 (1.1)	268 (1.2)	24 (1.1)	255 (1.9)	3 (0.4)	*** (***)
Dist. Columbia	45 (1.3)	242 (1.2) >	47 (1.3)	235 (1.6)	8 (0.8)	230 (4.6)
Florida	71 (1.2)	266 (1.3) >	25 (1.0) >	254 (2.1)	3 (0.4)	238 (3.5)
Georgia	71 (1.1)	265 (1.4)	25 (1.0)	251 (1.6)	3 (0.4)	245 (4.7)
Hawaii	75 (1.0) <	263 (1.0) »	21 (0.9) >	254 (1.8)	4 (0.5)	243 (4.6)
Idaho	83 (0.8)	278 (0.9) »	15 (0.8)	270 (1.4)	2 (0.2)	*** (***)
Indiana	78 (0.9)	274 (1.2)	20 (0.8)	259 (2.0)	2 (0.3)	*** (***)
Iowa	83 (0.8)	285 (1.0) >	16 (0.7)	278 (2.2) >	2 (0.3)	*** (***)
Kentucky	78 (1.0)	266 (1.2) »	20 (0.9)	255 (1.7)	3 (0.3)	245 (5.2)
Louisiana	71 (1.1)	256 (1.8)	25 (1.1)	243 (1.9)	4 (0.4)	233 (4.5)
Maine	81 (0.9)	280 (1.0)	17 (0.7)	275 (1.9)	2 (0.3)	*** (***)
Maryland	73 (1.3)	273 (1.4) >	23 (1.2)	255 (1.8)	3 (0.4)	244 (4.5)
Massachusetts	77 (1.0)	277 (1.1)	21 (0.9)	262 (1.9)	2 (0.3)	*** (***)
Michigan	75 (1.2)	273 (1.5)	23 (1.0)	257 (1.9)	3 (0.3)	250 (4.3)
Minnesota	85 (0.7)	285 (1.0) »	14 (0.7)	275 (2.2) >	1 (0.2)	*** (***)
Mississippi	70 (1.3)	253 (1.3)	27 (1.2)	239 (1.9)	4 (0.4)	234 (4.1)
Missouri	77 (1.0)	276 (1.2)	21 (0.9)	263 (1.8)	3 (0.3)	245 (5.1)
Nebraska	81 (0.9) <	281 (1.2)	17 (0.8) >	267 (1.7)	2 (0.3)	*** (***)
New Hampshire	81 (0.9)	280 (1.1) >	17 (0.8)	273 (1.6)	2 (0.3)	*** (***)
New Jersey	78 (1.4)	278 (1.5)	19 (1.3)	259 (2.2)	3 (0.4)	*** (***)
New Mexico	75 (1.0)	263 (1.1)	22 (0.9)	256 (1.6)	3 (0.3)	240 (4.0)
New York	75 (1.4)	274 (1.5) »	23 (1.2)	255 (3.5)	2 (0.4)	*** (***)
North Carolina	73 (1.1)	263 (1.1) »	24 (1.1)	253 (1.9) »	3 (0.4)	241 (5.0)
North Dakota	85 (0.8)	284 (1.3)	13 (0.7)	277 (1.6)	1 (0.3)	*** (***)
Ohio	74 (1.5) <	273 (1.6) >	23 (1.5)	258 (2.0)	2 (0.3)	*** (***)
Oklahoma	78 (1.1)	271 (1.1) >	20 (1.0)	261 (2.2)	3 (0.4)	*** (***)
Pennsylvania	79 (0.9)	275 (1.4)	19 (0.8)	262 (2.2)	2 (0.3)	*** (***)
Rhode Island	78 (1.4)	270 (0.9) »	20 (1.2)	259 (1.7)	2 (0.4)	*** (***)
South Carolina	73 (1.0)	267 (1.0)	23 (0.9)	251 (1.8)	4 (0.4)	242 (4.5)
Tennessee	73 (1.2)	264 (1.4)	24 (1.1)	248 (2.4)	3 (0.3)	243 (3.9)
Texas	75 (1.0)	271 (1.4) »	22 (0.9) >	258 (2.2)	3 (0.3)	243 (4.7)
Utah	85 (0.8)	277 (0.9)	14 (0.8)	268 (1.8)	1 (0.2)	*** (***)
Virginia	77 (1.3)	272 (1.2)	21 (1.2)	259 (1.9)	3 (0.4)	253 (4.9)
West Virginia	78 (1.0) <	261 (1.1)	19 (1.0) >	255 (1.6)	3 (0.4)	247 (3.9)
Wisconsin	80 (1.1)	280 (1.2)	19 (1.0)	272 (2.7)	1 (0.2)	*** (***)
Wyoming	81 (0.7) «	277 (0.9) >	17 (0.8) >	270 (1.5)	2 (0.3)	*** (***)
TERRITORIES						
Guam	79 (1.5)	245 (1.4) >	16 (1.4)	237 (3.7)	5 (0.7)	*** (***)
Virgin Islands	56 (1.4) «	227 (1.8) >	35 (1.6) >	223 (1.9)	9 (0.9)	214 (4.0)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 13.12 | Students' Reports on Number of Parents Living at Home (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Both Parents		Single Parent		Neither Parent	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	75 (0.9)	267 (1.4)	22 (0.9)	256 (1.6)	3 (0.3)	239 (4.9)
Northeast	78 (2.3)	273 (3.0)	20 (2.2)	262 (4.8)	2 (0.5)	*** (***)
Southeast	69 (1.9)	260 (2.5)	28 (2.1)	251 (2.5)	3 (0.6)	*** (***)
Central	77 (2.4)	269 (2.4)	21 (2.0)	257 (3.5)	3 (0.7)	*** (***)
West	78 (1.3)	265 (2.7)	19 (1.3)	255 (2.8)	3 (0.7)	*** (***)
STATES						
Alabama	75 (1.1)	258 (1.2)	22 (1.0)	246 (1.4)	3 (0.4)	239 (4.5)
Arizona	75 (1.2)	263 (1.3)	23 (1.1)	256 (2.0)	2 (0.3)	*** (***)
Arkansas	77 (0.8)	261 (0.9)	19 (0.7)	247 (1.8)	3 (0.3)	240 (5.5)
California	78 (1.1)	261 (1.4)	20 (1.1)	254 (1.9)	2 (0.3)	*** (***)
Colorado	78 (1.0)	270 (0.9)	21 (0.8)	264 (1.6)	2 (0.3)	*** (***)
Connecticut	79 (0.8)	274 (1.0)	19 (0.7)	260 (1.8)	2 (0.2)	*** (***)
Delaware	75 (0.9)	265 (1.1)	22 (1.0)	255 (1.6)	3 (0.4)	251 (6.6)
Dist. Columbia	47 (1.2)	237 (1.5)	45 (1.2)	232 (1.1)	7 (0.6)	226 (2.8)
Florida	75 (1.0)	260 (1.3)	21 (0.9)	250 (2.3)	4 (0.3)	237 (3.3)
Georgia	73 (1.0)	265 (1.4)	23 (0.9)	250 (1.7)	4 (0.4)	238 (3.8)
Hawaii	78 (0.9)	256 (0.9)	18 (0.8)	249 (1.9)	4 (0.4)	230 (4.5)
Idaho	84 (0.7)	273 (0.8)	14 (0.7)	270 (2.3)	2 (0.2)	*** (***)
Indiana	81 (1.0)	271 (1.1)	18 (1.0)	260 (1.9)	2 (0.3)	*** (***)
Iowa	83 (0.8)	280 (1.0)	15 (0.8)	271 (2.0)	2 (0.3)	*** (***)
Kentucky	79 (1.0)	260 (1.1)	19 (1.0)	250 (1.8)	2 (0.3)	250 (5.1)
Louisiana	73 (1.2)	251 (1.3)	23 (1.1)	241 (1.6)	4 (0.4)	233 (3.6)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	75 (1.3)	266 (1.4)	22 (1.2)	252 (2.2)	3 (0.4)	235 (3.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	77 (1.1)	269 (1.1)	21 (1.0)	253 (2.1)	2 (0.3)	*** (***)
Minnesota	83 (1.0)	278 (0.9)	16 (0.9)	267 (2.2)	1 (0.2)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	85 (0.7)	278 (0.9)	14 (0.8)	266 (2.9)	1 (0.3)	*** (***)
New Hampshire	83 (1.1)	275 (1.1)	16 (1.1)	269 (1.9)	1 (0.2)	*** (***)
New Jersey	79 (1.0)	275 (1.1)	19 (1.0)	258 (1.8)	2 (0.3)	*** (***)
New Mexico	77 (1.0)	261 (0.9)	20 (1.0)	251 (1.7)	3 (0.4)	240 (4.8)
New York	76 (1.1)	267 (1.3)	21 (1.0)	253 (3.0)	3 (0.4)	238 (4.2)
North Carolina	74 (0.9)	256 (1.2)	22 (0.9)	242 (1.6)	3 (0.4)	234 (4.0)
North Dakota	85 (1.2)	284 (1.2)	13 (1.2)	272 (1.8)	1 (0.2)	*** (***)
Ohio	79 (0.9)	268 (1.1)	20 (0.9)	256 (1.5)	2 (0.[illegible])	*** (***)
Oklahoma	78 (1.1)	266 (1.4)	19 (1.0)	258 (2.1)	3 (0.4)	*** (***)
Pennsylvania	80 (1.2)	271 (1.5)	19 (1.0)	257 (2.5)	2 (0.3)	*** (***)
Rhode Island	78 (1.0)	264 (0.7)	20 (0.8)	254 (1.3)	2 (0.3)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	77 (1.0)	263 (1.3)	19 (0.9)	254 (1.9)	3 (0.4)	236 (4.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	78 (0.9)	269 (1.7)	19 (0.9)	254 (1.8)	2 (0.3)	*** (***)
West Virginia	82 (0.8)	258 (1.0)	16 (0.8)	251 (1.9)	2 (0.3)	*** (***)
Wisconsin	81 (1.0)	277 (1.3)	18 (0.9)	265 (2.0)	1 (0.2)	*** (***)
Wyoming	85 (0.6)	274 (0.7)	14 (0.6)	268 (1.7)	1 (0.2)	*** (***)
TERRITORIES						
Guam	81 (1.0)	239 (1.1)	15 (1.1)	231 (2.5)	4 (0.7)	*** (***)
Virgin Islands	63 (1.2)	221 (1.4)	30 (1.1)	222 (1.9)	7 (1.0)	205 (3.8)

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TABLE 13.13 Students' Reports on Amount of Time Spent Watching Television Each Day, Grades 4, 8, and 12

	Assessment Years	Grade 4		Grade 8		Grade 12	
		Percent of Students	Average Proficiency	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Six Hours or More	1992	21 (0.7)	203 (1.1)	13 (0.4)<	243 (1.5)	6 (0.4)	273 (2.3)
	1990	24 (1.2)	202 (1.7)	16 (1.0)	245 (1.9)	4 (0.4)	265 (3.4)
Four to Five Hours	1992	22 (0.7)	220 (1.1)>	25 (0.6)<	261 (1.0)	15 (0.6)	286 (1.3)
	1990	20 (0.8)	214 (1.6)	28 (1.0)	262 (1.5)	15 (0.9)	281 (1.7)
Three Hours	1992	17 (0.5)	224 (1.2)>	22 (0.6)	271 (1.1)	19 (0.5)	293 (1.1)>
	1990	18 (0.8)	218 (1.5)	23 (0.8)	266 (1.7)	19 (0.8)	288 (1.8)
Two Hours	1992	19 (0.6)	225 (1.3)	24 (0.6)	277 (1.4)>	27 (0.6)	303 (1.2)
	1990	19 (0.8)	222 (1.9)	21 (0.9)	268 (1.7)	28 (0.9)	299 (1.7)
Zero to One Hour	1992	21 (0.7)	221 (1.4)>	17 (0.5)>	278 (1.9)>	33 (0.8)	308 (1.2)
	1990	20 (0.8)	213 (2.2)	12 (2.1)	239 (5.4)	33 (1.2)	304 (1.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 13.14 | Students' Reports on Amount of Time Spent Watching Television Each Day

	Grade 4 - 1992									
	Six Hours or More		Four to Five Hours		Three Hours		Two Hours		One Hour or Less	
PUBLIC SCHOOLS	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	22 (0.8)	203 (1.2)	22 (0.8)	219 (1.3)	17 (0.6)	223 (1.4)	19 (0.7)	224 (1.5)	21 (0.8)	220 (1.6)
Northeast	23 (2.6)	204 (3.3)	22 (2.5)	223 (2.5)	17 (1.8)	230 (4.0)	19 (1.3)	230 (3.6)	20 (1.9)	229 (3.3)
Southeast	28 (1.8)	196 (1.8)	18 (1.2)	210 (2.4)	17 (1.4)	217 (1.5)	17 (0.7)	215 (3.8)	19 (1.7)	212 (3.6)
Central	20 (1.3)	208 (3.4)	25 (1.4)	225 (2.4)	19 (0.8)	227 (3.8)	19 (2.0)	229 (2.9)	18 (1.2)	221 (4.0)
West	20 (1.5)	204 (2.0)	22 (1.5)	218 (2.7)	14 (0.8)	219 (2.1)	19 (1.3)	223 (2.3)	26 (1.5)	220 (2.4)
STATES										
Alabama	25 (1.5)	199 (1.9)	24 (1.1)	211 (1.9)	16 (0.9)	213 (2.3)	16 (0.9)	211 (2.9)	18 (0.9)	203 (2.2)
Arizona	18 (1.0)	206 (2.0)	21 (0.9)	217 (1.7)	18 (0.8)	220 (1.6)	20 (0.8)	217 (1.7)	24 (1.0)	209 (2.1)
Arkansas	29 (1.4)	200 (1.6)	22 (0.7)	215 (1.4)	15 (0.7)	217 (1.9)	16 (0.8)	215 (1.8)	18 (1.0)	203 (1.8)
California	20 (1.2)	196 (2.2)	20 (0.9)	208 (2.1)	16 (0.8)	215 (2.2)	20 (0.9)	212 (2.5)	23 (1.0)	206 (2.8)
Colorado	15 (1.0)	207 (1.8)	20 (0.7)	218 (1.5)	17 (0.8)	222 (1.7)	21 (0.7)	227 (1.5)	27 (0.9)	221 (1.3)
Connecticut	17 (1.1)	207 (2.0)	22 (0.9)	228 (1.5)	18 (0.8)	229 (1.5)	21 (0.9)	233 (1.5)	22 (1.0)	230 (2.0)
Delaware	26 (1.2)	202 (1.0)	21 (1.1)	218 (2.1)	18 (1.0)	225 (2.0)	17 (0.8)	226 (2.0)	19 (0.9)	219 (2.2)
Dist. Columbia	37 (1.0)	185 (1.1)	20 (0.8)	194 (1.6)	13 (0.6)	197 (1.9)	13 (0.7)	197 (1.9)	16 (0.8)	193 (1.7)
Florida	26 (1.5)	201 (2.1)	21 (0.8)	215 (2.3)	15 (0.6)	219 (1.8)	17 (0.9)	221 (2.1)	21 (1.2)	212 (2.2)
Georgia	24 (1.1)	201 (1.6)	22 (1.1)	218 (2.1)	16 (0.8)	221 (1.6)	17 (0.8)	222 (2.0)	21 (1.2)	215 (2.2)
Hawaii	23 (1.0)	203 (1.8)	18 (0.8)	216 (1.9)	15 (0.7)	219 (1.9)	17 (0.9)	218 (1.7)	27 (1.2)	212 (2.5)
Idaho	14 (0.9)	210 (2.1)	21 (0.9)	222 (1.3)	18 (0.8)	224 (1.5)	22 (0.8)	224 (1.4)	26 (1.0)	219 (1.4)
Indiana	20 (1.2)	209 (1.8)	23 (0.9)	221 (1.4)	18 (0.8)	225 (1.4)	20 (0.9)	225 (1.5)	18 (1.0)	219 (2.0)
Iowa	15 (1.1)	214 (2.3)	24 (0.9)	231 (1.3)	20 (0.8)	234 (1.4)	23 (0.9)	233 (1.3)	18 (0.9)	229 (1.8)
Kentucky	24 (1.1)	208 (1.6)	23 (1.0)	217 (1.5)	18 (0.9)	218 (1.8)	18 (0.9)	217 (1.7)	17 (0.9)	209 (1.9)
Louisiana	28 (1.3)	193 (2.0)	21 (1.0)	207 (2.2)	17 (0.8)	208 (2.1)	15 (0.7)	209 (1.9)	18 (0.9)	204 (2.2)
Maine	14 (1.2)	216 (1.7)	21 (1.1)	230 (1.6)	20 (1.0)	233 (1.7)	23 (1.0)	237 (2.0)	22 (1.1)	233 (1.7)
Maryland	25 (1.2)	201 (2.0)	23 (0.9)	218 (1.6)	16 (0.6)	224 (2.2)	18 (0.7)	224 (1.9)	18 (0.7)	220 (1.9)
Massachusetts	14 (1.1)	209 (2.2)	22 (0.9)	225 (2.1)	18 (0.8)	231 (1.8)	22 (0.8)	231 (1.7)	24 (1.4)	227 (2.1)
Michigan	22 (1.3)	201 (2.5)	22 (0.9)	221 (2.0)	17 (0.8)	225 (2.0)	20 (1.1)	227 (2.1)	19 (0.9)	220 (2.8)
Minnesota	14 (0.9)	213 (2.4)	21 (0.9)	229 (1.5)	19 (0.7)	232 (1.7)	23 (1.1)	233 (1.3)	23 (1.1)	226 (1.6)
Mississippi	31 (1.6)	194 (1.5)	19 (1.0)	205 (1.7)	15 (0.7)	207 (1.7)	16 (0.9)	205 (1.9)	19 (1.0)	196 (2.1)
Missouri	21 (1.2)	208 (2.1)	23 (0.9)	223 (1.4)	19 (0.8)	227 (1.7)	18 (0.9)	228 (1.7)	19 (1.0)	220 (2.0)
Nebraska	14 (0.8)	210 (2.0)	23 (1.0)	227 (1.8)	20 (0.9)	231 (1.9)	23 (0.9)	227 (2.1)	20 (0.9)	221 (1.9)
New Hampshire	13 (1.1)	215 (1.7)	21 (1.0)	227 (1.5)	19 (0.8)	229 (1.7)	22 (1.1)	233 (1.7)	25 (1.2)	233 (1.7)
New Jersey	20 (1.3)	210 (2.2)	22 (1.2)	227 (1.6)	18 (0.9)	230 (2.1)	20 (1.0)	234 (1.9)	20 (1.2)	230 (2.6)
New Mexico	20 (1.1)	201 (2.2)	20 (1.0)	217 (1.6)	16 (0.9)	217 (2.2)	20 (0.8)	215 (2.9)	24 (1.0)	210 (2.0)
New York	24 (1.6)	201 (2.4)	26 (0.9)	220 (1.5)	18 (0.9)	224 (1.9)	16 (0.9)	226 (2.1)	16 (1.0)	219 (2.6)
North Carolina	26 (1.3)	201 (1.6)	22 (0.9)	216 (1.4)	15 (0.7)	218 (1.9)	17 (0.8)	219 (2.0)	20 (1.0)	209 (2.1)
North Dakota	11 (1.3)	214 (2.1)	22 (1.2)	228 (1.1)	19 (0.9)	232 (1.3)	25 (0.9)	232 (1.2)	23 (1.2)	225 (1.7)
Ohio	21 (1.3)	208 (1.8)	22 (0.9)	220 (1.4)	19 (0.9)	223 (2.0)	19 (0.7)	222 (2.1)	19 (1.0)	216 (2.0)
Oklahoma	17 (1.1)	210 (1.8)	23 (1.0)	221 (1.4)	18 (0.8)	222 (1.6)	21 (0.9)	224 (1.6)	21 (1.0)	217 (1.4)
Pennsylvania	18 (1.3)	206 (1.8)	21 (0.9)	226 (2.0)	20 (1.0)	227 (1.8)	22 (1.0)	230 (1.5)	19 (1.0)	225 (2.4)
Rhode Island	19 (1.3)	201 (2.8)	22 (1.1)	217 (1.6)	18 (0.9)	219 (2.5)	20 (0.7)	219 (1.8)	20 (1.0)	214 (2.4)
South Carolina	25 (1.3)	200 (1.5)	22 (0.8)	214 (1.4)	15 (0.9)	216 (1.9)	17 (0.8)	218 (1.7)	19 (1.0)	214 (2.3)
Tennessee	22 (1.2)	195 (1.9)	22 (0.8)	214 (1.5)	19 (0.8)	214 (2.0)	19 (0.8)	214 (1.8)	19 (1.0)	212 (2.0)
Texas	21 (1.2)	205 (1.5)	24 (1.0)	222 (1.4)	17 (0.8)	223 (2.2)	18 (0.9)	224 (2.0)	20 (0.8)	213 (2.0)
Utah	10 (0.9)	211 (2.3)	18 (0.8)	224 (1.6)	16 (0.7)	225 (1.4)	25 (0.8)	226 (1.4)	32 (1.0)	223 (1.5)
Virginia	24 (1.4)	206 (1.4)	22 (1.0)	221 (1.5)	16 (0.7)	225 (2.6)	19 (0.9)	229 (2.4)	19 (0.9)	223 (2.1)
West Virginia	23 (1.2)	206 (1.7)	22 (0.8)	218 (1.4)	19 (0.9)	219 (1.5)	19 (1.0)	217 (1.9)	16 (0.9)	210 (2.0)
Wisconsin	14 (0.8)	214 (1.9)	22 (1.0)	228 (1.6)	20 (0.7)	231 (1.7)	23 (0.9)	233 (1.4)	20 (1.1)	227 (1.5)
Wyoming	13 (0.9)	216 (2.0)	17 (0.8)	226 (1.3)	19 (0.8)	228 (1.4)	23 (0.9)	227 (1.3)	27 (1.0)	222 (1.5)
TERRITORY										
Guam	21 (0.9)	184 (1.8)	15 (0.7)	198 (2.5)	13 (0.8)	201 (2.3)	17 (1.0)	196 (1.9)	34 (1.1)	186 (1.3)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 13.14 | Students' Reports on Amount of Time Spent Watching Television Each Day (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Six Hours or More		Four to Five Hours		Three Hours		Two Hours		One Hour or Less	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	13 (0.4)	243 (1.5)	26 (0.7)	260 (1.1)	22 (0.6)	270 (1.2)	23 (0.6)	276 (1.6)	15 (0.6)	276 (2.2)
Northeast	14 (0.8)	241 (3.4)	28 (1.6)	260 (3.2)	21 (1.6)	276 (3.3)	22 (1.4)	276 (4.2)	15 (1.1)	278 (6.5)
Southeast	17 (1.2)	239 (2.8)	30 (0.9)	256 (1.1)	22 (1.2)	263 (2.6)	19 (1.0)	268 (2.7)	12 (0.9)	267 (2.9)
Central	11 (0.9)	249 (2.9)	24 (1.4)	269 (2.7)	24 (1.2)	274 (2.5)	26 (1.4)	283 (3.0)	15 (0.9)	279 (3.7)
West	12 (0.9)	243 (3.7)	23 (1.2)	258 (1.9)	22 (1.0)	269 (1.7)	25 (1.4)	276 (2.9)	18 (1.4)	277 (4.1)
STATES										
Alabama	20 (1.0)	236 (2.0)	31 (0.9)	250 (2.0)	22 (1.0)	256 (2.1)	17 (0.9)	262 (2.2)	10 (0.7)	255 (2.9)
Arizona	9 (0.8) <	249 (2.1)	27 (0.9)	261 (1.5)	22 (0.7)	266 (1.9)	24 (1.0)	270 (1.9)	17 (0.9)	270 (2.0)
Arkansas	20 (1.0)	237 (1.7) <	31 (1.0)	255 (1.6)	21 (0.9)	261 (1.8)	18 (0.9)	264 (1.7)	10 (0.7)	265 (2.4)
California	10 (0.8)	237 (3.2)	24 (1.0)	255 (1.9)	23 (0.9)	260 (2.2)	27 (1.0)	266 (2.2)	17 (1.1)	273 (3.2)
Colorado	7 (0.6)	252 (2.7)	22 (0.9)	266 (1.4)	24 (0.9)	270 (1.4)	27 (1.0)	278 (1.5)	21 (1.0) >	279 (1.9)
Connecticut	11 (1.0)	244 (2.5)	22 (0.9) <	266 (1.7)	25 (0.9)	275 (1.5)	27 (0.9) >	282 (1.4)	16 (0.9)	285 (2.0)
Delaware	17 (1.1)	245 (2.0)	28 (1.2)	261 (1.8)	24 (1.1)	265 (1.9)	20 (0.8)	271 (2.5)	11 (0.8)	272 (3.1)
Dist. Columbia	31 (1.4)	229 (1.4)	33 (1.0)	236 (1.4)	17 (0.9)	235 (2.4)	12 (0.8)	240 (2.8)	7 (0.6)	238 (3.1)
Florida	15 (1.1) <	241 (2.2)	27 (1.1)	256 (1.9)	22 (0.9)	263 (1.8)	22 (0.9) >	266 (2.1)	13 (0.9)	269 (2.7) >
Georgia	18 (0.9)	244 (1.7)	29 (0.8)	256 (1.3)	22 (0.7)	262 (2.0)	19 (0.8)	268 (2.1)	12 (0.7)	266 (2.7)
Hawaii	22 (0.8)	245 (1.5)	25 (1.0)	261 (1.6) »	21 (0.8)	258 (1.7)	17 (0.9)	264 (2.0)	11 (0.5)	259 (3.0)
Idaho	7 (0.7)	256 (2.3)	20 (0.8) <	268 (1.3)	25 (0.8)	274 (1.5)	27 (0.9)	278 (1.3)	20 (0.9)	282 (1.8)
Indiana	9 (0.7)	250 (2.7)	26 (0.9)	263 (1.5)	23 (0.8)	271 (1.8)	26 (0.8)	275 (1.5)	15 (1.0)	280 (2.2)
Iowa	7 (0.6)	265 (2.1)	24 (1.0)	278 (1.5)	26 (0.9)	284 (1.4) »	28 (1.0)	288 (1.3)	16 (0.9)	287 (2.0)
Kentucky	13 (0.8)	245 (1.8)	28 (1.0)	256 (1.5)	26 (0.8)	265 (1.7)	22 (0.8)	270 (1.6) >	12 (0.7)	270 (2.6)
Louisiana	20 (1.0)	236 (2.1)	32 (1.2)	249 (1.9)	21 (0.8)	254 (2.1)	18 (0.7)	256 (2.3)	10 (0.6)	251 (3.7)
Maine	8 (0.6)	263 (2.8)	21 (1.0)	273 (1.4)	24 (1.0)	277 (1.3)	28 (1.0)	284 (1.6)	18 (0.9)	283 (1.9)
Maryland	17 (0.9)	242 (1.8)	26 (1.1)	260 (1.4)	24 (0.9) >	267 (2.3)	21 (0.8)	276 (2.1)	11 (0.7)	280 (2.7)
Massachusetts	8 (0.7)	246 (2.6)	22 (0.9)	263 (1.4)	25 (0.9)	274 (1.8)	27 (1.0)	279 (1.6)	18 (1.0)	283 (1.9)
Michigan	13 (0.7)	240 (2.1)	25 (1.0)	262 (1.7)	24 (0.9)	270 (1.5)	25 (1.1) >	277 (2.2)	12 (0.8)	278 (2.8)
Minnesota	5 (0.6)	262 (3.8)	20 (0.8) «	275 (1.5)	27 (1.1)	280 (1.7)	31 (1.3) >	288 (1.5) »	18 (0.8) >	288 (1.5) >
Mississippi	21 (1.0)	230 (2.0)	29 (1.0)	246 (1.4)	22 (0.8)	253 (1.8)	18 (0.8)	254 (2.2)	10 (0.5)	244 (2.9)
Missouri	12 (0.7)	255 (3.2)	25 (1.0)	266 (1.3)	24 (0.9)	272 (1.5)	25 (0.9)	277 (1.5)	12 (0.7)	280 (2.6)
Nebraska	8 (0.6)	255 (3.2)	25 (1.2)	275 (1.6)	25 (0.8)	277 (1.3)	28 (1.2)	283 (1.8)	14 (1.0)	282 (2.4)
New Hampshire	7 (0.5)	261 (3.1)	22 (0.9)	272 (1.6)	23 (0.9)	276 (1.5)	29 (0.9)	282 (1.4)	20 (1.1)	284 (2.0)
New Jersey	13 (1.1)	246 (3.1)	26 (0.9)	268 (1.9)	22 (1.1)	274 (2.0)	24 (1.0)	279 (1.7)	15 (1.1)	283 (2.2)
New Mexico	11 (0.7)	246 (2.3)	26 (0.8)	256 (1.3)	22 (0.8)	259 (1.5)	24 (0.9)	263 (1.3)	16 (0.9)	265 (1.8)
New York	15 (1.1)	241 (3.3)	26 (1.0)	260 (2.4)	22 (1.1)	272 (2.1)	23 (1.1)	276 (2.2)	15 (0.8) >	279 (3.1)
North Carolina	16 (0.8) «	241 (2.0)	29 (0.9)	255 (1.4) >	23 (0.8) >	261 (1.6)	20 (0.7)	267 (2.1) >	12 (0.8)	264 (2.7)
North Dakota	5 (0.5)	266 (3.1)	21 (1.0) <	274 (1.7)	26 (1.0)	283 (1.8)	31 (1.0) >	287 (1.5)	17 (0.9)	289 (1.4)
Ohio	12 (1.1)	246 (2.6)	24 (0.8) <	264 (2.1)	25 (0.8)	270 (1.7)	24 (1.1)	273 (1.9)	15 (0.9)	279 (3.5)
Oklahoma	11 (0.8) <	252 (1.9)	30 (0.9)	265 (1.6)	25 (0.9)	270 (1.5)	22 (1.1)	274 (1.7)	12 (0.9)	269 (2.4)
Pennsylvania	9 (0.8)	246 (3.4)	22 (0.9) <	264 (1.9)	26 (0.9)	273 (1.5)	28 (1.1)	277 (1.5)	16 (0.9)	280 (2.5)
Rhode Island	9 (0.7) <	247 (2.4) >	25 (0.9)	257 (1.5)	26 (1.1)	269 (1.5) >	26 (1.0)	271 (1.6)	14 (0.8)	274 (2.3)
South Carolina	17 (0.9)	241 (1.4)	30 (0.9)	256 (1.2)	22 (0.8)	265 (1.8)	18 (0.7)	272 (1.6)	12 (0.7)	269 (2.3)
Tennessee	14 (1.0)	244 (2.3)	28 (1.0)	255 (1.6)	24 (0.8)	260 (1.6)	22 (0.8)	264 (1.9)	11 (0.9)	265 (4.0)
Texas	12 (0.8)	245 (2.2)	27 (0.9) <	258 (1.4)	24 (0.9)	267 (1.8)	22 (1.0)	271 (2.0) >	15 (0.9)	274 (2.6) >
Utah	5 (0.5)	253 (3.0)	16 (0.9)	266 (1.5)	21 (1.0)	269 (1.6)	30 (1.0)	277 (1.2)	28 (1.1)	282 (1.3)
Virginia	15 (1.0)	245 (1.7)	27 (0.9)	261 (1.3)	23 (0.9)	270 (1.8)	22 (0.9)	280 (1.6) >	13 (0.8)	280 (2.1)
West Virginia	13 (0.7) <	244 (1.7)	31 (1.1)	256 (1.4)	23 (1.0)	261 (1.5)	22 (0.9)	266 (1.7)	11 (0.7)	263 (2.3)
Wisconsin	8 (0.7)	257 (2.6)	22 (1.5)	270 (1.9)	23 (0.9)	278 (1.7)	28 (0.8)	282 (1.3)	19 (1.7)	287 (3.4)
Wyoming	8 (0.6)	256 (2.0)	20 (0.8) <	270 (1.4)	23 (0.9)	275 (1.5)	27 (1.1)	280 (1.2)	22 (0.9) >	278 (1.6)
TERRITORIES										
Guam	20 (0.9)	230 (2.6)	20 (1.0)	247 (2.3)	20 (1.0)	246 (2.5) >	19 (0.9)	232 (2.2)	22 (0.8) >	223 (2.3)
Virgin Islands	32 (1.2) >	221 (1.7)	26 (1.3)	225 (1.6)	16 (0.7)	228 (2.3)	13 (0.7)	219 (2.8)	13 (0.9) <	215 (3.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE 13.14 | Students' Reports on Amount of Time Spent Watching Television Each Day (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Six Hours or More		Four to Five Hours		Three Hours		Two Hours		One Hour or Less	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	16 (1.0)	245 (2.0)	28 (1.1)	262 (1.6)	22 (0.8)	266 (1.8)	21 (0.9)	268 (1.9)	12 (0.8)	269 (2.4)
Northeast	15 (3.3)	254 (5.5)!	28 (2.6)	267 (4.5)	23 (1.2)	272 (4.1)	21 (2.3)	279 (2.9)	12 (1.3)	278 (4.5)
Southeast	18 (1.4)	238 (3.1)	28 (1.6)	254 (3.4)	22 (1.9)	262 (3.7)	19 (2.1)	257 (4.2)	12 (1.3)	261 (6.2)
Central	14 (1.6)	246 (3.9)	27 (3.0)	261 (3.2)	25 (2.4)	270 (4.1)	22 (1.7)	273 (3.0)	11 (1.6)	270 (3.4)
West	16 (2.0)	245 (3.2)	29 (1.7)	264 (2.6)	20 (1.2)	260 (3.2)	20 (1.6)	263 (3.9)	14 (1.8)	268 (4.3)
STATES										
Alabama	18 (0.9)	240 (2.1)	34 (0.9)	253 (1.3)	22 (0.9)	255 (1.8)	16 (0.6)	261 (2.1)	10 (0.5)	257 (2.5)
Arizona	12 (0.6)	245 (2.2)	25 (0.9)	257 (1.7)	24 (0.9)	263 (2.0)	23 (0.8)	264 (1.6)	15 (0.8)	265 (2.5)
Arkansas	20 (0.9)	245 (1.8)	33 (1.1)	258 (1.0)	22 (0.8)	261 (1.6)	16 (0.8)	261 (1.7)	8 (0.5)	255 (3.1)
California	11 (0.7)	245 (3.1)	26 (1.0)	251 (1.5)	23 (1.0)	257 (1.9)	24 (0.9)	260 (1.8)	16 (0.9)	266 (2.4)
Colorado	9 (0.7)	249 (2.3)	25 (0.9)	263 (1.3)	24 (0.7)	267 (1.3)	25 (0.9)	273 (1.5)	17 (0.8)	276 (1.9)
Connecticut	12 (0.8)	247 (2.5)	25 (1.0)	266 (1.6)	23 (1.0)	270 (1.8)	23 (0.9)	279 (1.5)	16 (1.1)	281 (2.4)
Delaware	18 (0.9)	243 (2.6)	31 (1.0)	259 (1.5)	22 (1.0)	264 (1.7)	19 (1.2)	271 (2.3)	9 (0.7)	271 (3.8)
Dist. Columbia	33 (1.1)	228 (1.3)	31 (1.2)	235 (1.6)	16 (0.7)	230 (2.1)	12 (0.6)	233 (2.3)	8 (0.7)	235 (6.9)
Florida	19 (1.0)	240 (2.3)	29 (0.9)	256 (1.4)	21 (0.8)	259 (1.7)	19 (0.9)	262 (2.3)	12 (0.7)	259 (2.7)
Georgia	17 (0.9)	243 (1.8)	30 (0.8)	258 (1.8)	23 (0.9)	261 (1.9)	19 (0.8)	268 (2.0)	12 (0.7)	266 (3.4)
Hawaii	23 (0.8)	239 (1.6)	31 (0.8)	252 (1.4)	19 (0.7)	257 (1.8)	18 (0.8)	258 (2.1)	10 (0.6)	254 (2.8)
Idaho	7 (0.6)	256 (3.4)	24 (1.0)	267 (1.6)	24 (0.8)	272 (1.4)	26 (1.1)	275 (1.3)	19 (0.9)	278 (1.4)
Indiana	11 (0.7)	251 (2.4)	28 (0.9)	263 (1.6)	26 (0.9)	270 (1.7)	23 (0.9)	274 (1.7)	13 (0.7)	274 (2.0)
Iowa	8 (0.7)	262 (2.5)	28 (1.2)	275 (1.4)	26 (1.0)	276 (1.5)	24 (1.0)	285 (1.9)	14 (1.0)	284 (2.2)
Kentucky	14 (0.7)	244 (2.0)	30 (1.0)	256 (1.7)	25 (0.9)	260 (1.6)	21 (0.8)	261 (1.9)	10 (0.6)	262 (4.1)
Louisiana	19 (1.1)	236 (2.0)	31 (1.1)	246 (1.4)	22 (0.8)	251 (1.8)	17 (0.8)	253 (2.1)	10 (0.7)	248 (2.9)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	19 (0.9)	240 (1.8)	30 (1.0)	258 (1.6)	21 (0.7)	264 (1.7)	20 (0.9)	272 (2.3)	11 (0.8)	276 (4.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	14 (0.9)	244 (2.8)	27 (0.9)	261 (1.4)	24 (0.8)	266 (1.7)	22 (0.9)	275 (1.7)	13 (0.9)	273 (2.3)
Minnesota	7 (0.5)	260 (2.7)	25 (0.7)	271 (1.5)	26 (0.9)	276 (1.4)	27 (0.8)	280 (1.5)	15 (0.8)	280 (2.0)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	9 (0.5)	254 (2.8)	27 (1.2)	271 (1.4)	26 (1.0)	278 (1.4)	24 (1.0)	283 (1.6)	14 (0.7)	281 (2.3)
New Hampshire	7 (0.7)	255 (3.3)	25 (0.9)	269 (1.2)	24 (0.8)	273 (1.5)	26 (1.1)	277 (1.8)	17 (0.9)	283 (2.2)
New Jersey	13 (0.8)	248 (2.4)	28 (1.0)	265 (1.6)	25 (0.8)	272 (1.6)	23 (0.9)	277 (2.0)	12 (0.8)	284 (2.3)
New Mexico	11 (0.7)	243 (1.7)	27 (1.2)	253 (1.3)	24 (0.9)	258 (1.4)	24 (1.0)	264 (2.0)	14 (0.6)	261 (2.0)
New York	17 (1.0)	243 (2.9)	29 (0.9)	257 (1.7)	22 (1.0)	265 (1.9)	20 (0.8)	273 (2.1)	12 (0.6)	271 (2.9)
North Carolina	21 (1.0)	236 (1.8)	32 (1.0)	249 (1.3)	20 (0.8)	257 (1.6)	18 (0.7)	258 (1.8)	10 (0.6)	259 (3.7)
North Dakota	6 (0.7)	264 (3.5)	26 (1.3)	279 (2.5)	26 (1.2)	282 (1.5)	27 (1.2)	282 (1.7)	14 (0.9)	289 (2.4)
Ohio	11 (0.8)	244 (2.1)	28 (0.9)	260 (1.1)	24 (0.9)	266 (1.4)	24 (1.0)	272 (1.7)	13 (0.7)	271 (2.3)
Oklahoma	14 (0.8)	250 (2.2)	30 (1.1)	260 (1.5)	24 (1.0)	266 (1.8)	22 (0.9)	268 (1.9)	10 (0.7)	271 (3.4)
Pennsylvania	10 (0.8)	244 (3.1)	25 (1.0)	262 (1.9)	26 (1.1)	269 (1.7)	24 (1.1)	272 (1.8)	14 (0.7)	276 (2.4)
Rhode Island	12 (0.5)	238 (2.0)	29 (1.0)	257 (1.1)	25 (0.8)	263 (1.5)	22 (1.0)	269 (1.6)	13 (0.8)	270 (2.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	15 (0.9)	243 (2.2)	30 (0.8)	258 (1.5)	23 (1.0)	264 (1.5)	19 (0.8)	262 (2.3)	13 (0.7)	261 (3.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	16 (0.9)	248 (2.0)	29 (1.1)	258 (1.5)	21 (0.7)	270 (2.0)	21 (1.1)	271 (2.5)	13 (0.8)	278 (3.0)
West Virginia	16 (0.7)	243 (1.8)	30 (0.8)	254 (1.4)	25 (0.7)	258 (1.4)	20 (0.9)	264 (1.8)	9 (0.6)	261 (2.5)
Wisconsin	8 (0.7)	250 (2.8)	25 (0.9)	269 (1.7)	25 (0.9)	275 (1.5)	26 (0.9)	282 (1.5)	16 (0.8)	283 (2.3)
Wyoming	7 (0.6)	254 (2.8)	24 (0.8)	266 (1.2)	25 (0.9)	274 (1.2)	26 (0.9)	275 (1.3)	18 (1.0)	281 (1.5)
TERRITORIES										
Guam	20 (1.1)	230 (2.6)	23 (1.1)	239 (2.1)	20 (0.8)	238 (1.7)	18 (0.9)	233 (2.3)	19 (0.9)	218 (2.0)
Virgin Islands	27 (1.0)	218 (1.7)	24 (1.5)	222 (2.0)	17 (1.3)	222 (1.6)	14 (1.0)	219 (2.1)	18 (1.2)	213 (2.1)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 13.15 Students' Report Whether They Were Born in the United States or One of the United States Territories, Grades 4, 8, and 12

	Were you born in one of the 50 States of the United States, in the District of Columbia, or in one of the United States Territories?			
	Yes		No	
	Percent of Students	Average Proficiency	Percent of Students	Average Proficiency
Grade 4	92 (0.5)	220 (0.7)	8 (0.5)	197 (1.5)
Grade 8	94 (0.4)	269 (0.9)	6 (0.4)	254 (2.8)
Grade 12	93 (0.5)	299 (0.9)	7 (0.5)	294 (2.5)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 13.16 | Students' Reports on Whether They Were Born in the United States or One of the United States' Territories

PUBLIC SCHOOLS	Grade 4 - 1992			
	Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	92 (0.5)	219 (0.8)	8 (0.5)	196 (1.7)
Northeast	91 (1.3)	225 (2.0)	9 (1.3)	198 (4.5)
Southeast	92 (0.8)	210 (1.9)	8 (0.8)	192 (3.5)
Central	93 (0.8)	224 (2.1)	7 (0.8)	199 (3.9)
West	91 (1.2)	219 (1.6)	9 (1.2)	195 (2.7)
STATES				
Alabama	95 (0.6)	208 (1.6)	5 (0.6)	189 (4.8)
Arizona	92 (0.6)	216 (1.2)	8 (0.6)	195 (2.5)
Arkansas	92 (0.7)	211 (1.0)	8 (0.7)	185 (2.7)
California	86 (1.0)	210 (1.6)	14 (1.0)	189 (2.7)
Colorado	93 (0.7)	221 (1.0)	7 (0.7)	200 (2.9)
Connecticut	92 (0.7)	228 (1.1)	8 (0.7)	207 (3.6)
Delaware	91 (0.8)	219 (0.8)	9 (0.8)	191 (2.7)
Dist. Columbia	90 (0.6)	192 (0.6)	10 (0.6)	185 (2.5)
Florida	89 (0.8)	214 (1.6)	11 (0.8)	195 (2.7)
Georgia	93 (0.7)	216 (1.4)	7 (0.7)	196 (3.0)
Hawaii	80 (1.7)	215 ([illegible])	20 (1.7)	204 (2.3)
Idaho	96 (0.4)	221 (1.0)	4 (0.4)	199 (2.8)
Indiana	96 (0.5)	221 (1.0)	4 (0.5)	201 (2.9)
Iowa	96 (0.4)	230 (1.1)	4 (0.4)	210 (3.5)
Kentucky	96 (0.5)	214 (1.0)	4 (0.5)	201 (4.4)
Louisiana	92 (1.2)	204 (1.5)	8 (1.2)	190 (3.9)
Maine	95 (0.6)	232 (1.0)	5 (0.6)	213 (3.7)
Maryland	91 (0.9)	217 (1.3)	9 (0.9)	204 (4.1)
Massachusetts	92 (0.9)	228 (1.2)	8 (0.9)	204 (3.0)
Michigan	94 (0.8)	220 (1.8)	6 (0.8)	197 (4.5)
Minnesota	94 (0.9)	229 (0.8)	6 (0.9)	202 (3.6)
Mississippi	93 (0.9)	201 (1.2)	7 (0.9)	185 (2.6)
Missouri	95 (0.6)	222 (1.2)	5 (0.6)	198 (4.0)
Nebraska	96 (0.6)	226 (1.2)	4 (0.6)	199 (4.7)
New Hampshire	96 (0.4)	230 (1.2)	4 (0.4)	208 (3.4)
New Jersey	90 (1.2)	228 (1.5)	10 (1.2)	211 (2.6)
New Mexico	93 (0.9)	213 (1.4)	7 (0.9)	197 (3.8)
New York	87 (1.3)	220 (1.2)	13 (1.3)	197 (2.8)
North Carolina	94 (0.7)	213 (1.1)	6 (0.7)	195 (4.0)
North Dakota	95 (0.7)	229 (0.8)	5 (0.7)	202 (2.7)
Ohio	95 (0.5)	219 (1.2)	5 (0.5)	195 (3.4)
Oklahoma	94 (0.7)	220 (1.0)	6 (0.7)	203 (2.6)
Pennsylvania	93 (0.7)	225 (1.4)	7 (0.7)	203 (2.8)
Rhode Island	92 (0.9)	216 (1.4)	8 (0.9)	188 (3.6)
South Carolina	94 (0.7)	212 (1.2)	6 (0.7)	192 (2.4)
Tennessee	94 (0.8)	211 (1.4)	6 (0.8)	190 (3.2)
Texas	90 (1.0)	219 (1.2)	10 (1.0)	199 (3.0)
Utah	95 (0.4)	224 (1.0)	5 (0.4)	201 (3.3)
Virginia	93 (0.5)	221 (1.3)	7 (0.5)	209 (3.1)
West Virginia	96 (0.5)	214 (1.1)	4 (0.5)	200 (4.0)
Wisconsin	94 (0.6)	229 (1.1)	6 (0.6)	205 (2.7)
Wyoming	96 (0.5)	225 (1.0)	4 (0.5)	204 (2.5)
TERRITORY				
Guam	61 (1.1)	196 (1.2)	39 (1.1)	184 (1.4)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 13.16 | Students' Reports on Whether They Were Born in the United States or One of the United States' Territories (continued)

PUBLIC SCHOOLS	Grade 8 - 1992			
	Yes		No	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	94 (0.5)	267 (0.9)	6 (0.5)	251 (2.8)
Northeast	92 (1.7)	268 (3.0)	8 (1.7)	257 (5.9)!
Southeast	95 (0.7)	259 (1.1)	5 (0.7)	239 (5.0)
Central	96 (0.6)	274 (2.2)	4 (0.6)	259 (8.8)
West	92 (0.9)	268 (2.1)	8 (0.9)	250 (4.7)
STATES				
Alabama	97 (0.4)	252 (1.6)	3 (0.4)	230 (5.6)
Arizona	95 (0.7)	266 (1.3)	5 (0.7)	245 (4.4)
Arkansas	98 (0.4)	256 (1.1)	2 (0.4)	*** (***)
California	83 (1.4)	262 (1.6)	17 (1.4)	251 (3.5)
Colorado	96 (0.5)	272 (1.0)	4 (0.5)	258 (4.3)
Connecticut	91 (0.6)	276 (1.1)	9 (0.6)	249 (3.4)
Delaware	96 (0.5)	263 (0.9)	4 (0.5)	248 (5.5)
Dist. Columbia	91 (0.8)	234 (1.0)	9 (0.8)	234 (5.0)
Florida	87 (1.5)	262 (1.5)	13 (1.5)	244 (2.7)
Georgia	96 (0.5)	259 (1.2)	4 (0.5)	250 (5.0)
Hawaii	84 (0.8)	260 (0.9)	16 (0.8)	242 (2.6)
Idaho	97 (0.4)	275 (0.7)	3 (0.4)	260 (4.4)
Indiana	97 (0.4)	270 (1.2)	3 (0.4)	252 (6.8)
Iowa	98 (0.3)	283 (1.0)	2 (0.3)	*** (***)
Kentucky	97 (0.4)	262 (1.1)	3 (0.4)	244 (4.0)
Louisiana	94 (0.5)	251 (1.6)	6 (0.5)	222 (3.7)
Maine	96 (0.9)	278 (1.0)	4 (0.9)	267 (4.9)
Maryland	93 (0.7)	265 (1.3)	7 (0.7)	254 (4.9)
Massachusetts	94 (0.5)	273 (1.1)	6 (0.5)	254 (4.3)
Michigan	97 (0.4)	267 (1.4)	3 (0.4)	252 (4.7)
Minnesota	97 (0.4)	282 (1.0)	3 (0.4)	267 (3.9)
Mississippi	96 (0.3)	247 (1.2)	4 (0.3)	214 (3.3)
Missouri	98 (0.3)	270 (1.2)	2 (0.3)	*** (***)
Nebraska	97 (0.3)	278 (1.1)	3 (0.3)	257 (5.0)
New Hampshire	98 (0.3)	278 (1.0)	2 (0.3)	*** (***)
New Jersey	89 (1.0)	273 (1.5)	11 (1.0)	257 (4.0)
New Mexico	94 (0.5)	259 (0.9)	6 (0.5)	251 (3.2)
New York	88 (1.6)	270 (1.6)	12 (1.6)	236 (6.0)
North Carolina	96 (0.4)	259 (1.2)	4 (0.4)	232 (4.5)
North Dakota	98 (0.5)	283 (1.1)	2 (0.5)	*** (***)
Ohio	98 (0.3)	268 (1.6)	2 (0.3)	*** (***)
Oklahoma	97 (0.3)	268 (1.2)	3 (0.3)	*** (***)
Pennsylvania	97 (0.4)	272 (1.4)	3 (0.4)	249 (5.4)
Rhode Island	91 (0.5)	268 (0.8)	9 (0.5)	236 (2.7)
South Carolina	97 (0.3)	260 (1.0)	3 (0.3)	254 (4.2)
Tennessee	98 (0.3)	258 (1.4)	2 (0.3)	*** (***)
Texas	91 (0.6)	265 (1.3)	9 (0.6)	250 (3.3)
Utah	97 (0.4)	274 (0.8)	3 (0.4)	260 (3.6)
Virginia	94 (0.7)	267 (1.2)	6 (0.7)	264 (3.4)
West Virginia	98 (0.3)	259 (1.0)	2 (0.3)	*** (***)
Wisconsin	97 (0.5)	278 (1.4)	3 (0.5)	257(11.0)!
Wyoming	98 (0.3)	275 (0.9)	2 (0.3)	*** (***)
TERRITORIES				
Guam	53 (1.1)	245 (1.3)	47 (1.1)	223 (1.5)
Virgin Islands	59 (1.1)	225 (1.6)	41 (1.1)	217 (1.4)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 13.17 Students' Reports on Number of Times They Changed Schools During the Past Two Years Because They Changed Where They Lived, Grades 4 and 8

	None		One to Two		Three or More	
	Percent of Students	**Average Proficiency**	**Percent of Students**	**Average Proficiency**	**Percent of Students**	**Average Proficiency**
Grade 4	61 (0.8)	225 (0.8)	27 (0.6)	213 (1.2)	12 (0.5)	200 (1.6)
Grade 8	79 (0.6)	271 (0.9)	18 (0.5)	259 (1.7)	4 (0.3)	245 (2.2)

>The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). Percentages may not total 100 percent due to rounding error.

TABLE 13.18 | Students' Reports on Number of Times They Changed Schools During the Past Two Years Because They Changed Where They Lived

PUBLIC SCHOOLS	Grade 4 - 1992					
	None		One or Two		Three or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	60 (0.9)	224 (0.9)	28 (0.7)	212 (1.3)	13 (0.5)	199 (1.6)
Northeast	65 (1.9)	229 (2.3)	26 (1.3)	215 (3.7)	10 (1.3)	203 (4.8)
Southeast	56 (2.1)	215 (2.4)	29 (1.5)	203 (2.5)	15 (1.1)	197 (2.1)
Central	63 (1.9)	228 (1.7)	27 (1.5)	216 (3.3)	10 (0.7)	203 (4.7)
West	56 (1.3)	224 (1.9)	29 (1.2)	214 (2.0)	14 (0.8)	198 (2.7)
STATES						
Alabama	62 (1.4)	211 (1.7)	26 (1.1)	202 (2.1)	11 (0.7)	195 (2.2)
Arizona	54 (1.5)	218 (1.3)	30 (1.1)	211 (1.5)	16 (0.9)	203 (1.9)
Arkansas	62 (1.2)	212 (1.0)	26 (1.1)	206 (1.6)	13 (0.7)	200 (2.3)
California	54 (2.0)	214 (2.0)	31 (1.3)	203 (1.6)	15 (1.1)	193 (2.5)
Colorado	58 (1.3)	225 (1.1)	28 (1.0)	216 (1.5)	14 (0.9)	204 (2.1)
Connecticut	68 (1.2)	233 (1.1)	23 (1.0)	215 (1.9)	9 (0.7)	204 (2.5)
Delaware	58 (1.3)	224 (0.8)	28 (0.9)	210 (1.6)	14 (0.9)	200 (1.9)
Dist. Columbia	52 (1.0)	199 (1.1)	35 (1.1)	184 (1.2)	13 (0.7)	181 (1.8)
Florida	50 (1.6)	217 (1.6)	33 (1.2)	210 (2.3)	16 (0.9)	202 (1.6)
Georgia	58 (1.9)	220 (1.3)	29 (1.4)	210 (1.9)	13 (0.9)	199 (1.8)
Hawaii	55 (1.3)	218 (1.6)	29 (1.0)	208 (1.6)	15 (0.9)	204 (2.1)
Idaho	63 (1.3)	224 (0.9)	25 (1.0)	218 (1.5)	12 (0.7)	207 (2.0)
Indiana	64 (1.2)	225 (1.0)	25 (1.0)	215 (1.5)	10 (0.8)	201 (1.8)
Iowa	71 (1.2)	233 (1.1)	21 (0.9)	225 (1.9)	8 (0.7)	208 (2.3)
Kentucky	64 (1.3)	217 (1.1)	25 (1.0)	212 (1.7)	11 (0.8)	202 (2.5)
Louisiana	59 (1.5)	207 (1.5)	28 (1.2)	200 (1.9)	13 (0.8)	192 (2.4)
Maine	72 (1.4)	234 (1.1)	19 (1.1)	226 (2.3)	9 (0.7)	214 (2.5)
Maryland	58 (1.5)	224 (1.4)	31 (1.2)	209 (1.9)	11 (0.7)	196 (2.2)
Massachusetts	71 (1.3)	230 (1.3)	22 (1.1)	215 (1.8)	6 (0.6)	210 (3.1)
Michigan	63 (1.5)	225 (1.7)	26 (1.2)	212 (2.4)	11 (0.7)	197 (3.0)
Minnesota	70 (1.2)	232 (1.0)	21 (1.0)	221 (1.8)	9 (0.7)	209 (2.4)
Mississippi	64 (1.3)	203 (1.4)	25 (1.0)	195 (1.6)	11 (0.9)	194 (2.2)
Missouri	64 (1.4)	225 (1.2)	24 (1.3)	219 (2.1)	12 (0.8)	203 (2.3)
Nebraska	68 (1.1)	228 (1.4)	22 (0.9)	220 (1.9)	10 (0.7)	205 (3.1)
New Hampshire	74 (1.2)	231 (1.3)	19 (1.2)	225 (1.8)	7 (0.6)	214 (2.5)
New Jersey	69 (1.3)	232 (1.4)	23 (1.0)	216 (1.9)	8 (0.8)	205 (2.8)
New Mexico	57 (2.3)	217 (2.1)	28 (1.8)	207 (1.7)	14 (0.9)	202 (2.2)
New York	67 (1.3)	223 (1.2)	25 (1.2)	210 (1.9)	8 (0.7)	197 (2.8)
North Carolina	61 (1.3)	215 (1.3)	26 (0.9)	210 (1.7)	13 (0.8)	197 (2.1)
North Dakota	74 (1.5)	230 (0.9)	18 (1.1)	223 (1.8)	8 (0.9)	212 (2.6)
Ohio	66 (1.0)	222 (1.1)	23 (0.8)	213 (1.8)	12 (0.7)	202 (2.0)
Oklahoma	59 (1.3)	224 (1.2)	27 (1.0)	215 (1.6)	14 (0.9)	207 (1.6)
Pennsylvania	69 (1.4)	229 (1.4)	22 (1.0)	215 (1.8)	9 (0.6)	200 (2.7)
Rhode Island	66 (1.5)	219 (1.6)	25 (1.2)	207 (2.2)	9 (0.8)	198 (3.6)
South Carolina	62 (1.2)	214 (1.3)	27 (1.0)	208 (1.5)	11 (0.7)	201 (1.7)
Tennessee	61 (1.4)	214 (1.3)	27 (1.0)	206 (2.1)	12 (0.8)	196 (2.5)
Texas	55 (1.7)	222 (1.4)	30 (1.3)	215 (1.9)	15 (0.9)	204 (2.5)
Utah	67 (1.1)	226 (1.0)	23 (0.9)	219 (1.7)	9 (0.7)	208 (2.2)
Virginia	61 (1.3)	225 (1.5)	26 (1.1)	215 (1.9)	13 (0.8)	203 (2.1)
West Virginia	72 (1.0)	217 (1.1)	20 (0.9)	208 (1.7)	9 (0.7)	199 (2.2)
Wisconsin	71 (1.2)	232 (1.1)	20 (0.9)	222 (1.6)	9 (0.6)	208 (2.6)
Wyoming	61 (1.3)	228 (0.9)	24 (0.8)	221 (1.5)	14 (0.9)	213 (2.0)
TERRITORY						
Guam	45 (1.1)	192 (1.2)	37 (1.1)	192 (1.6)	18 (0.8)	189 (2.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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TABLE 13.18 | Students' Reports on Number of Times They Changed Schools During the Past Two Years Because They Changed Where They Lived (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	None		One or Two		Three or More	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	78 (0.7)	270 (1.0)	18 (0.6)	258 (1.8)	4 (0.3)	244 (2.4)
Northeast	81 (1.3)	271 (3.0)	16 (1.3)	254 (4.5)	2 (0.5)	*** (***)
Southeast	76 (1.5)	261 (1.4)	20 (1.3)	254 (2.5)	4 (0.6)	240 (3.6)
Central	82 (0.7)	277 (2.1)	15 (0.6)	262 (3.6)	3 (0.7)	*** (***)
West	74 (1.5)	271 (2.2)	22 (1.2)	261 (3.6)	5 (0.6)	248 (3.4)
STATES						
Alabama	77 (0.8)	253 (1.8)	19 (0.8)	249 (2.3)	4 (0.5)	242 (4.0)
Arizona	71 (1.2)	267 (1.3)	24 (1.1)	260 (2.3)	5 (0.5)	258 (3.2)
Arkansas	76 (1.0)	258 (1.2)	19 (0.8)	248 (2.0)	5 (0.5)	249 (4.0)
California	73 (1.5)	266 (1.7)	22 (1.2)	254 (2.3)	5 (0.6)	240 (4.1)
Colorado	74 (0.7)	275 (1.0)	20 (0.6)	264 (1.9)	5 (0.4)	253 (3.1)
Connecticut	81 (1.0)	277 (1.0)	16 (0.9)	261 (2.0)	3 (0.4)	*** (***)
Delaware	74 (0.9)	266 (1.0)	21 (0.8)	254 (2.5)	4 (0.4)	250 (4.9)
Dist. Columbia	75 (1.2)	238 (1.2)	21 (1.1)	227 (1.8)	4 (0.4)	220 (6.0)
Florida	69 (1.2)	262 (1.5)	26 (1.0)	256 (1.8)	5 (0.5)	251 (3.2)
Georgia	76 (1.1)	261 (1.3)	21 (1.0)	255 (2.0)	4 (0.4)	247 (3.6)
Hawaii	74 (1.0)	260 (1.0)	21 (0.8)	252 (2.0)	5 (0.4)	242 (4.4)
Idaho	79 (0.7)	276 (0.9)	16 (0.6)	273 (1.6)	4 (0.5)	258 (2.9)
Indiana	81 (0.9)	271 (1.2)	16 (0.8)	263 (2.3)	3 (0.3)	252 (4.5)
Iowa	86 (0.7)	284 (1.0)	12 (0.6)	277 (2.0)	2 (0.3)	*** (***)
Kentucky	80 (0.8)	264 (1.2)	16 (0.8)	257 (1.6)	3 (0.4)	245 (3.9)
Louisiana	77 (1.1)	251 (1.7)	19 (1.0)	245 (2.5)	4 (0.4)	244 (3.5)
Maine	86 (0.8)	279 (1.0)	12 (0.7)	272 (2.4)	2 (0.3)	*** (***)
Maryland	78 (1.4)	267 (1.4)	19 (1.3)	259 (2.6)	3 (0.4)	245 (4.5)
Massachusetts	86 (0.7)	274 (1.2)	11 (0.7)	261 (2.0)	2 (0.3)	*** (***)
Michigan	80 (1.0)	270 (1.6)	17 (0.8)	256 (2.2)	4 (0.4)	246 (4.3)
Minnesota	85 (0.8)	284 (1.0)	13 (0.7)	273 (2.5)	2 (0.3)	*** (***)
Mississippi	79 (0.9)	247 (1.3)	18 (0.9)	241 (2.1)	3 (0.4)	246 (4.3)
Missouri	79 (0.8)	273 (1.1)	18 (0.8)	264 (2.3)	4 (0.3)	256 (2.9)
Nebraska	82 (1.0)	279 (1.2)	15 (0.9)	271 (1.8)	3 (0.4)	252 (4.2)
New Hampshire	85 (0.8)	279 (1.1)	13 (0.8)	273 (2.1)	2 (0.3)	*** (***)
New Jersey	80 (1.0)	275 (1.3)	17 (0.9)	257 (3.1)	2 (0.3)	*** (***)
New Mexico	75 (0.9)	261 (0.9)	20 (0.7)	256 (1.8)	4 (0.4)	249 (3.2)
New York	83 (0.9)	270 (2.0)	15 (0.9)	255 (3.5)	2 (0.3)	*** (***)
North Carolina	78 (1.0)	260 (1.2)	17 (0.8)	253 (1.8)	5 (0.5)	244 (3.6)
North Dakota	86 (0.9)	284 (1.2)	13 (0.8)	275 (1.7)	1 (0.3)	*** (***)
Ohio	80 (0.9)	271 (1.5)	17 (0.8)	259 (3.0)	3 (0.4)	242 (4.9)
Oklahoma	77 (0.9)	270 (1.2)	19 (0.8)	262 (2.1)	4 (0.4)	255 (3.6)
Pennsylvania	86 (0.9)	273 (1.4)	12 (0.8)	261 (2.9)	2 (0.3)	*** (***)
Rhode Island	81 (1.3)	268 (0.9)	17 (1.3)	259 (1.8)	2 (0.3)	*** (***)
South Carolina	78 (1.0)	261 (1.0)	19 (0.9)	257 (2.0)	4 (0.4)	251 (3.7)
Tennessee	79 (1.0)	261 (1.6)	17 (1.0)	249 (2.0)	4 (0.4)	250 (3.1)
Texas	74 (0.9)	267 (1.5)	22 (0.7)	258 (2.0)	4 (0.5)	248 (3.3)
Utah	80 (0.8)	276 (0.7)	17 (0.7)	270 (1.6)	4 (0.4)	256 (3.9)
Virginia	75 (1.2)	269 (1.3)	21 (1.1)	263 (2.2)	4 (0.4)	260 (3.1)
West Virginia	85 (0.7)	260 (1.1)	13 (0.7)	252 (2.1)	3 (0.3)	248 (3.8)
Wisconsin	84 (0.8)	279 (1.4)	13 (0.7)	273 (2.6)	2 (0.3)	248 (5.6)
Wyoming	78 (0.9)	276 (1.0)	18 (0.8)	271 (1.6)	4 (0.4)	257 (3.9)
TERRITORIES						
Guam	69 (1.3)	240 (1.2)	24 (1.2)	238 (2.1)	7 (0.8)	229 (4.6)
Virgin Islands	78 (1.2)	224 (1.3)	19 (1.1)	220 (2.0)	3 (0.4)	*** (***)

***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 13.19 | Students' Reports on Number of Grades They Have Attended School in the State from Kindergarten through Fourth Grade

PUBLIC SCHOOLS	Grade 4 - 1992					
	Less than One Grade		One to Two Grades		Three or More Grades	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	5 (0.4)	208 (2.4)	7 (0.5)	206 (1.8)	88 (0.7)	219 (0.9)
Northeast	4 (1.0)	*** (***)	7 (1.0)	215 (5.1)	89 (1.4)	223 (2.2)
Southeast	6 (0.9)	202 (4.9)	8 (1.1)	198 (2.5)	85 (1.6)	210 (2.0)
Central	4 (1.1)	*** (***)	7 (1.4)	206 (3.8)!	89 (2.0)	224 (2.1)
West	4 (0.4)	205 (3.0)	7 (0.7)	207 (2.9)	89 (0.6)	219 (1.6)
STATES						
Alabama	5 (0.5)	199 (3.0)	7 (0.7)	204 (3.0)	88 (0.9)	208 (1.6)
Arizona	5 (0.6)	208 (2.8)	10 (0.7)	209 (2.8)	84 (1.1)	215 (1.1)
Arkansas	6 (0.8)	202 (2.7)	8 (0.6)	206 (2.7)	85 (1.2)	210 (1.0)
California	3 (0.4)	193 (4.4)	6 (0.6)	198 (3.6)	90 (0.7)	208 (1.6)
Colorado	7 (0.6)	211 (3.0)	9 (0.6)	215 (2.6)	84 (0.9)	221 (1.0)
Connecticut	4 (0.5)	211 (3.7)	6 (0.5)	215 (3.2)	90 (0.7)	227 (1.1)
Delaware	5 (0.4)	212 (3.8)	9 (0.8)	209 (2.2)	86 (0.9)	218 (0.8)
Dist. Columbia	7 (0.5)	180 (3.0)	9 (0.6)	183 (2.6)	84 (0.6)	193 (0.6)
Florida	6 (0.5)	206 (3.5)	10 (0.7)	209 (3.0)	84 (1.0)	213 (1.6)
Georgia	6 (1.2)	195 (4.8)!	9 (0.6)	206 (2.4)	85 (1.4)	216 (1.3)
Hawaii	6 (0.5)	212 (2.9)	11 (0.9)	210 (2.3)	83 (1.1)	213 (1.4)
Idaho	6 (0.5)	214 (2.8)	9 (0.5)	217 (2.5)	86 (0.8)	221 (1.0)
Indiana	4 (0.4)	211 (3.5)	6 (0.5)	212 (2.6)	90 (0.7)	221 (1.1)
Iowa	4 (0.5)	213 (3.5)	6 (0.4)	219 (3.2)	91 (0.7)	230 (1.0)
Kentucky	4 (0.5)	206 (4.1)	6 (0.6)	211 (3.2)	90 (0.8)	214 (1.0)
Louisiana	6 (0.6)	195 (2.4)	6 (0.6)	200 (3.1)	88 (0.8)	204 (1.4)
Maine	4 (0.6)	217 (3.6)	5 (0.5)	227 (3.2)	91 (0.7)	232 (1.0)
Maryland	5 (0.5)	206 (3.1)	9 (0.8)	203 (3.2)	86 (0.9)	218 (1.3)
Massachusetts	5 (1.0)	214 (2.8)!	5 (0.6)	211 (3.1)	90 (1.3)	227 (1.3)
Michigan	3 (0.3)	209 (4.9)	6 (0.6)	200 (3.6)	91 (0.7)	220 (1.8)
Minnesota	3 (0.4)	215 (4.2)	6 (0.5)	212 (2.9)	91 (0.7)	229 (0.9)
Mississippi	7 (1.4)	188 (3.7)	9 (0.8)	194 (2.4)	84 (1.5)	202 (1.2)
Missouri	5 (0.8)	209 (3.7)	6 (0.5)	213 (3.3)	88 (0.9)	222 (1.2)
Nebraska	5 (0.6)	212 (3.9)	7 (0.7)	217 (3.1)	88 (0.9)	225 (1.2)
New Hampshire	4 (0.6)	223 (4.0)	6 (0.6)	227 (2.9)	90 (0.9)	229 (1.2)
New Jersey	3 (0.5)	205 (3.9)	6 (0.7)	214 (4.5)	91 (0.8)	228 (1.4)
New Mexico	7 (0.7)	204 (3.7)	9 (0.7)	207 (2.2)	84 (1.0)	213 (1.7)
New York	4 (0.5)	202 (4.1)	7 (0.6)	203 (3.1)	89 (0.8)	219 (1.2)
North Carolina	7 (1.1)	204 (3.7)	8 (0.8)	208 (2.9)	85 (1.5)	212 (1.0)
North Dakota	5 (0.6)	217 (3.4)	6 (0.6)	219 (2.4)	90 (0.9)	229 (0.9)
Ohio	4 (0.5)	204 (3.4)	6 (0.4)	212 (3.1)	90 (0.6)	219 (1.2)
Oklahoma	6 (0.5)	212 (2.8)	7 (0.6)	215 (2.4)	87 (0.8)	220 (1.0)
Pennsylvania	4 (0.5)	209 (3.0)	5 (0.4)	213 (2.9)	91 (0.6)	224 (1.4)
Rhode Island	4 (0.5)	204 (3.9)	6 (0.6)	205 (3.8)	90 (0.9)	215 (1.6)
South Carolina	6 (0.4)	205 (2.9)	8 (0.6)	210 (2.4)	86 (0.7)	212 (1.1)
Tennessee	6 (0.7)	204 (3.2)	9 (0.8)	207 (2.7)	85 (1.0)	210 (1.4)
Texas	6 (0.5)	203 (3.0)	8 (0.6)	210 (2.4)	87 (0.8)	219 (1.3)
Utah	4 (0.5)	217 (3.3)	7 (0.5)	217 (3.1)	89 (0.7)	224 (1.0)
Virginia	6 (0.5)	215 (3.0)	8 (0.7)	216 (3.2)	86 (1.0)	221 (1.4)
West Virginia	4 (0.3)	205 (2.9)	7 (0.5)	208 (2.7)	89 (0.7)	215 (1.1)
Wisconsin	4 (0.4)	212 (3.9)	5 (0.5)	209 (3.7)	92 (0.6)	229 (1.1)
Wyoming	8 (0.9)	214 (2.5)	9 (0.6)	222 (1.9)	82 (1.1)	225 (1.0)
TERRITORY						
Guam	12 (0.8)	195 (2.6)	15 (0.9)	199 (2.1)	73 (1.0)	189 (1.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE 13.20 Students' Reports on Number of Grades They Have Attended School in the State from Kindergarten through Eighth Grade

PUBLIC SCHOOLS	Grade 8 - 1992					
	Two Grades or Less		Three to Five Grades		More than Five Grades	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	6 (0.5)	258 (2.6)	8 (0.4)	264 (2.3)	85 (0.7)	271 (1.0)
Northeast	6 (0.7)	*** (***)	7 (1.1)	258 (7.4)	87 (1.4)	273 (2.7)
Southeast	8 (0.8)	253 (3.3)	9 (1.1)	260 (3.4)	83 (1.2)	262 (1.1)
Central	5 (0.8)	*** (***)	6 (0.7)	268 (5.6)	89 (1.0)	277 (2.0)
West	7 (1.4)	258 (5.3)	10 (0.6)	268 (3.6)	82 (1.6)	272 (2.3)
STATES						
Alabama	7 (0.6)	247 (4.1)	8 (0.6)	250 (4.1)	84 (1.0)	256 (1.8)
Arizona	10 (0.6)	265 (3.0)	12 (0.8)	271 (2.3)	78 (1.1) >	268 (1.2) »
Arkansas	8 (0.6)	248 (2.8)	9 (0.6)	255 (2.6)	83 (1.0)	260 (1.3)
California	6 (0.6)	250 (5.1)	9 (0.7)	262 (3.8)	85 (0.9)	268 (1.6) »
Colorado	8 (0.5)	265 (2.8)	11 (0.6)	271 (1.8)	80 (0.8)	275 (1.1) »
Connecticut	5 (0.4)	267 (4.2)	8 (0.6)	279 (2.8) >	87 (0.8)	276 (1.1) >
Delaware	10 (0.8)	259 (3.2)	10 (0.7)	261 (2.9)	80 (1.0)	266 (1.1) >
Dist. Columbia	8 (0.7)	233 (3.4)	8 (0.9)	247 (4.4) >	84 (0.8)	239 (1.2) >
Florida	11 (0.8)	261 (2.3) >	15 (0.7)	267 (2.1)	73 (1.0)	262 (1.6) >
Georgia	8 (0.7)	260 (3.7)	10 (0.9)	268 (2.8)	82 (1.2)	262 (1.1)
Hawaii	12 (0.9)	252 (2.6)	11 (0.8)	260 (3.6)	76 (1.0)	263 (1.1) »
Idaho	8 (0.5)	271 (2.6)	10 (0.6)	275 (2.7)	83 (0.8)	277 (0.9) >
Indiana	5 (0.6)	267 (4.2)	8 (0.5)	262 (3.1)	87 (0.8)	273 (1.2) >
Iowa	5 (0.4)	276 (3.4)	6 (0.4)	284 (3.4)	90 (0.6)	284 (1.1) »
Kentucky	6 (0.6)	254 (3.2)	7 (0.6)	260 (2.9)	87 (0.9)	265 (1.1) »
Louisiana	6 (0.7)	243 (3.3)	7 (0.6)	252 (4.3)	86 (1.1)	253 (1.8)
Maine	4 (0.5)	274 (4.3)	9 (0.8)	281 (2.7)	87 (1.1)	279 (1.0)
Maryland	8 (0.8)	264 (3.3)	10 (0.8)	266 (2.9)	82 (1.3)	269 (1.4) >
Massachusetts	4 (0.4)	261 (4.6)	6 (0.5)	272 (3.8)	91 (0.7)	275 (1.1)
Michigan	4 (0.6)	254 (4.6)	5 (0.4)	267 (3.6)	91 (0.7)	271 (1.3) >
Minnesota	4 (0.4)	271 (4.3)	6 (0.5)	279 (3.0)	90 (0.6)	284 (1.0) »
Mississippi	8 (0.8)	238 (3.1)	8 (0.8)	254 (3.5)	83 (1.3)	250 (1.2)
Missouri	7 (0.5)	264 (2.9)	7 (0.5)	272 (2.9)	86 (0.7)	274 (1.1)
Nebraska	6 (0.6)	267 (3.5)	7 (0.6)	272 (2.8)	87 (0.9)	280 (1.1)
New Hampshire	6 (0.4) «	270 (3.1)	12 (0.9)	276 (2.2)	83 (1.0) >	280 (1.1) >
New Jersey	5 (0.6)	256 (5.5)	8 (0.6)	272 (3.3)	87 (0.7)	276 (1.5)
New Mexico	10 (0.7)	258 (2.7)	11 (0.8)	263 (2.8)	79 (1.0)	262 (0.9) »
New York	4 (0.6)	247 (7.2)	6 (0.6)	258 (6.0)	90 (1.0)	271 (1.7) >
North Carolina	9 (0.6)	253 (2.8)	8 (0.7)	260 (3.0)	83 (0.9)	262 (1.2) »
North Dakota	5 (0.5)	277 (3.6)	6 (0.6)	277 (2.7)	89 (0.8)	284 (1.3)
Ohio	4 (0.5)	253 (4.6)	5 (0.5)	263 (3.6)	91 (0.7)	271 (1.5) >
Oklahoma	7 (0.6)	259 (3.4)	7 (0.7)	266 (2.9)	85 (0.8)	271 (1.3) >
Pennsylvania	5 (0.5)	261 (3.6)	5 (0.5)	264 (3.3)	90 (0.8)	274 (1.6) >
Rhode Island	6 (0.5)	260 (4.2)	7 (0.6)	263 (3.5)	87 (0.7)	269 (0.9) »
South Carolina	9 (0.7)	258 (3.5)	9 (0.7)	269 (2.6)	82 (1.1)	263 (1.0)
Tennessee	8 (0.7)	254 (3.2)	9 (0.7)	259 (3.1)	83 (1.0)	261 (1.6)
Texas	6 (0.6)	248 (4.2)	8 (0.7)	274 (3.4) »	86 (1.0)	269 (1.2) »
Utah	6 (0.5)	270 (3.2)	8 (0.5)	274 (2.9)	86 (0.8)	276 (0.8)
Virginia	9 (0.7)	268 (2.9)	13 (0.9)	274 (2.2)	78 (1.1)	270 (1.3)
West Virginia	6 (0.5)	250 (2.6)	6 (0.5)	258 (2.8)	88 (0.7)	261 (1.1) >
Wisconsin	5 (0.5)	264 (3.8)	5 (0.4)	270 (3.4)	90 (0.6)	280 (1.5)
Wyoming	10 (0.7)	269 (2.6)	11 (0.9)	273 (2.0)	79 (1.1)	277 (0.9) >
TERRITORIES						
Guam	23 (1.2) >	246 (3.4)	10 (0.9)	243 (4.5)	67 (1.3) <	243 (1.9) >
Virgin Islands	23 (1.1) »	217 (2.0)	9 (0.7)	223 (4.3)	69 (1.3) «	229 (1.5) »

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. » The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE 13.20 | Students' Reports on Number of Grades They Have Attended School in the State from Kindergarten through Eighth Grade (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Two Grades or Less		Three to Five Grades		More than Five Grades	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
NATION	7 (0.7)	250 (3.4)	7 (0.6)	263 (2.7)	85 (0.9)	264 (1.4)
Northeast	5 (0.7)	*** (***)	4 (0.8)	*** (***)	91 (1.2)	272 (3.1)
Southeast	9 (1.8)	246 (5.4)!	9 (1.7)	*** (***)	82 (2.9)	256 (2.7)
Central	5 (1.0)	*** (***)	7 (1.3)	*** (***)	89 (1.4)	266 (2.2)
West	9 (1.3)	246 (6.1)	9 (1.0)	261 (2.9)	82 (1.6)	264 (2.9)
STATES						
Alabama	7 (0.5)	250 (3.3)	8 (0.7)	259 (2.8)	85 (1.1)	254 (1.1)
Arizona	11 (0.7)	257 (2.5)	15 (0.8)	264 (2.2)	74 (1.0)	261 (1.4)
Arkansas	7 (0.5)	253 (3.0)	9 (0.6)	261 (2.8)	84 (0.9)	257 (0.9)
California	6 (0.6)	249 (3.9)	10 (0.8)	257 (2.6)	84 (1.0)	259 (1.3)
Colorado	9 (0.8)	268 (2.8)	12 (0.7)	269 (1.9)	79 (1.1)	268 (0.9)
Connecticut	6 (0.5)	261 (3.5)	9 (0.5)	268 (3.0)	85 (0.8)	272 (0.9)
Delaware	10 (0.6)	256 (3.7)	10 (0.7)	260 (2.4)	79 (1.0)	262 (1.0)
Dist. Columbia	8 (0.7)	229 (3.1)	8 (0.6)	231 (3.0)	84 (1.0)	234 (1.1)
Florida	12 (0.8)	250 (2.7)	15 (0.9)	262 (2.2)	72 (1.1)	257 (1.2)
Georgia	9 (0.8)	255 (3.2)	11 (0.7)	265 (2.7)	80 (1.2)	260 (1.4)
Hawaii	13 (0.7)	243 (3.3)	9 (0.6)	255 (2.9)	78 (0.8)	254 (0.9)
Idaho	8 (0.7)	263 (2.5)	9 (0.6)	272 (2.9)	83 (1.0)	273 (0.8)
Indiana	5 (0.5)	258 (3.4)	6 (0.6)	266 (3.3)	88 (0.8)	268 (1.2)
Iowa	5 (0.5)	267 (3.5)	6 (0.5)	276 (3.5)	89 (0.7)	279 (1.0)
Kentucky	5 (0.4)	250 (4.1)	6 (0.5)	259 (2.6)	89 (0.6)	258 (1.1)
Louisiana	6 (0.6)	244 (3.1)	7 (0.6)	246 (3.6)	87 (0.9)	248 (1.3)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	9 (0.6)	256 (2.9)	11 (0.6)	261 (2.6)	80 (0.9)	263 (1.4)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	5 (0.6)	255 (3.5)	6 (0.5)	261 (2.8)	89 (0.8)	267 (1.2)
Minnesota	4 (0.4)	265 (4.5)	5 (0.4)	268 (3.7)	90 (0.6)	277 (0.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	6 (0.5)	269 (3.3)	8 (0.6)	273 (2.4)	86 (0.7)	277 (1.0)
New Hampshire	8 (0.6)	272 (3.3)	13 (0.8)	274 (2.3)	79 (0.9)	274 (1.1)
New Jersey	5 (0.5)	257 (4.0)	7 (0.6)	272 (3.0)	87 (0.7)	272 (1.2)
New Mexico	10 (0.8)	257 (2.8)	10 (0.7)	264 (2.9)	79 (0.9)	257 (0.9)
New York	5 (0.6)	246 (4.6)	6 (0.7)	253 (4.2)	88 (0.9)	265 (1.1)
North Carolina	9 (0.8)	245 (2.6)	9 (0.8)	255 (3.1)	82 (1.3)	252 (1.1)
North Dakota	5 (0.7)	270 (4.1)	5 (0.7)	273 (5.1)	90 (1.0)	283 (1.2)
Ohio	4 (0.4)	255 (3.9)	6 (0.5)	262 (2.8)	90 (0.6)	265 (1.1)
Oklahoma	7 (0.6)	255 (3.4)	8 (0.6)	265 (3.5)	85 (0.9)	264 (1.3)
Pennsylvania	5 (0.5)	255 (3.8)	5 (0.5)	266 (3.6)	90 (0.8)	268 (1.7)
Rhode Island	7 (0.4)	254 (3.3)	9 (0.5)	257 (2.6)	85 (0.6)	262 (0.7)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	6 (0.5)	245 (4.5)	8 (0.8)	256 (2.8)	86 (1.0)	261 (1.3)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	9 (0.6)	263 (2.6)	11 (0.8)	269 (3.0)	79 (0.8)	265 (1.6)
West Virginia	6 (0.6)	247 (3.8)	5 (0.5)	258 (4.1)	89 (0.7)	257 (0.9)
Wisconsin	4 (0.4)	254 (3.3)	6 (0.5)	271 (3.2)	90 (0.8)	276 (1.2)
Wyoming	9 (0.6)	267 (2.4)	10 (0.6)	273 (2.0)	80 (0.9)	273 (0.8)
TERRITORIES						
Guam	18 (1.3)	237 (2.7)	10 (0.7)	242 (3.9)	72 (1.2)	235 (0.9)
Virgin Islands	14 (1.1)	213 (2.3)	7 (0.9)	218 (3.7)	79 (1.5)	220 (1.1)

! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic

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APPENDIX A

What Students Know and Can Do in Mathematics: NAEP's Anchor-Level Results

Overview

Scale anchoring is a procedure to describe performance at particular points of "anchor" level on the 0 to 500 NAEP scale. More specifically, based on students' performance on the assessment questions, mathematics understandings are described that represent gains from one anchor level to the next; that is, what students know and can do at one level that differentiates them from students performing at lower levels. The descriptions of advances in mathematical understanding from one anchor level to the next are presented together with percentages of students performing at or above each level.

The NAEP mathematics scale was anchored at 50-point intervals -- 200, 250, 300, and 350. In theory, NAEP could have defined proficiency levels above 350 or below 200; however, so few students in the assessment performed at the extreme ends of the scale that is was not useful to do so.

To develop the descriptions, first an empirical process was used to delineate sets of questions typical of what students know and can do at the anchor intervals on the scale -- sets of items that students at one level were more likely to answer correctly than were students at the next lower level.[8] The four sets of anchor questions -- each containing from 33 to 88 questions -- were studied by a panel of mathematics educators, who carefully considered and articulated the types of knowledge, skills, and reasoning abilities demonstrated by correct responses.

For this report containing 1992 results, the 1990 anchoring process was replicated to update the descriptions used previously in reporting the 1990 assessment results.[9] Some items in the 1992 assessment were carried forward from 1990 to provide a basis for measuring trends, but others were newly developed measures of the mathematics framework intended to reflect improvements in ways of assessing mathematics achievement. Thus, the updated descriptions provided in this report reflect the evolution of the 1992 items.

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[8] For more detailed descriptions of the scale anchoring process and how it is implemented, please see:

Gary W. Phillips, et al., *Interpreting NAEP Scales* (Washington, D.C.: National Center for Education Statistics, U.S. government Printing Office, 1993).

Eugene G. Johnson, et al., *The Technical Report of NAEP's 1992 Trial State Assessment of Mathematics* (Princeton, N.J.: National Assessment of Educational Progress, Educational Testing Service, 1993).

Albert E. Beaton and Nancy Allen, "Interpreting Scales through Scale Anchoring," *Journal of Educational Statistics*, 1992, 17, pp. 191-204.

[9] Ina V.S. Mullis, et al., *The State of Mathematics Achievement* (Washington, D.C.: National Center for Education Statistics, U.S. Government Printing Office, 1991).

TABLE A.1 presents the average mathematics proficiency for fourth, eighth, and twelfth graders and the percentages of students in each grade performing at or above the four anchor levels in both 1992 and 1990. The corresponding information for states and territories participating in the 1992 Trial State Assessments is found in TABLE A.2. In making comparisons between national, regional, and state performance, the data found at the top of TABLE A.2 should be used. Whereas the national results provided in TABLE A.1 are based on students attending both private and public schools, the national, regional and state data found in TABLE A.2 are based only on students attending public schools. In general, the two data sets for the nation and regions of the country are very similar, but the national figures including private school students are usually 1 to 2 percentage points higher than those in the state comparison sample. Also, it should be remembered that the regional results for the state comparisons are based on the national samples and not on an aggregate of participating states for the region, which would not necessarily have been representative of regional performance. Finally, although trend results from 1990 are available for the nation at all three grades and the states at grade 8, the Trial State Assessments were not conducted at grade 4 in 1990. The descriptions summarizing performance at the four anchor levels are found in FIGURE A.1, and example items of each level follow.

TABLE A.1 **National Overall Average Mathematics Proficiency and Anchor Levels, Grades 4, 8, and 12**

Level	Description	Assessment Years	Grade 4	Grade 8	Grade 12
Average Proficiency		1992	218 (0.7)>	268 (0.9)>	299 (0.9)>
		1990	213 (0.9)	263 (1.3)	294 (1.1)
			Percentage of Students At or Above		
200	**Addition and Subtraction, and Simple Problem Solving with Whole Numbers**	1992	72 (0.9)>	97 (0.4)	100 (0.1)
		1990	67 (1.4)	95 (0.7)	100 (0.2)
250	**Multiplication and Division, Simple Measurement, and Two-Step Problem Solving**	1992	17 (0.8)>	68 (1.0)	91 (0.5)>
		1990	12 (1.1)	65 (1.4)	88 (0.9)
300	**Reasoning and Problem Solving Involving Fractions, Decimals, Percents, and Elementary Concepts in Geometry, Statistics, and Algebra**	1992	0 (0.1)	20 (0.9)>	50 (1.2)>
		1990	0 (0.1)	15 (1.0)	45 (1.4)
350	**Reasoning and Problem Solving Involving Geometric Relationships, Algebra, and Functions**	1992	0 (0.0)	1 (0.2)	6 (0.5)
		1990	0 (0.0)	0 (0.2)	5 (0.8)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

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FIGURE A.1 Description of Mathematics Proficiency for Four Anchor Levels on the NAEP Scale

Level 200	**Addition and Subtraction, and Simple Problem Solving with Whole Numbers**

Students at this level can identify solutions to one-step word problems, involving addition or subtraction. They can add and subtract whole numbers in most situations, and when a calculator is available, they can multiply and divide. They are able to select the largest whole number from a set of numbers in the thousands, and can match the verbal and symbolic names for numbers.

Students demonstrate familiarity with length and weight, by selecting appropriate instruments and units to measure these attributes. They are able to recognize some basic properties of two-dimensional geometric figures as well as the names of standard examples of these figures. They can recognize simple patterns.

Level 250	**Multiplication and Division, Simple Measurement, and Two-Step Problem Solving**

When presented with a problem situation, students at this level have some understanding of the problem, can identify extraneous information, and have some knowledge of when to use computational estimation. They have an understanding of addition, subtraction, multiplication, and division with whole numbers. They can solve simple two-step problems involving whole numbers. They are able to round whole numbers and solve simple word problems involving place value, estimation, and multiples.

Students can use a ruler to measure length in centimeters and have some understanding of area and perimeter. They can solve simple problems using readings from instruments. They demonstrate a knowledge of properties of triangles, squares, rectangles, circles, and cubes. They can solve problems that require visualizing, drawing or manipulating simple geometric shapes. They are able to complete bar graphs and pictographs, as well as use information from graphs or tables to solve simple problems. They can recognize simple number patterns, are beginning to deal informally with the idea of a variable, and have some knowledge of simple probability.

Level 300

Reasoning and Problem Solving Involving Fractions, Decimals, Percents, Elementary Concepts in Geometry, Statistics, and Algebra

Students at this level can use various strategies and explain their reasoning in a variety of problem-solving situations. They are able to solve problems involving not only whole numbers but with decimals and fractions. They can represent and find equivalent fractions, and use these concepts in solving routine problems. They can find a percent of a number and use this skill in simple problems. Multiplication and division of whole numbers have developed to the extent that students can use all four operations in multi-step problems.

Students can read and use instruments in more complex situations. They can find areas of rectangles, recognize relationships among common units of measure, and solve routine problems involving similar triangles and scale drawings. They have knowledge of definitions and properties of simple geometric figures in the plane. Their spatial sense includes the ability to visualize a cube in either three-space or its flattened form in a plane.

Students can calculate averages, select and interpret data from a variety of graphs, list the possible arrangements in a sample space, find the probability of a simple event, and have a beginning understanding of sample bias. They can use knowledge of relative frequencies in simple simulation situations. Students show the ability to evaluate simple expressions and solve linear equations. Students can graph points on coordinate axes, locate the missing coordinates for a corner of a square, and identify which ordered pairs satisfy a given linear equation.

Level 350

Reasoning and Problem Solving Involving Geometric Relationships, Algebra, and Functions

Students at this level can reason and estimate with percents. They can recognize scientific notation and find the decimal equivalent. They can apply their knowledge of area and perimeter of simple geometric figures to solve problems. They can find the circumferences of circles and the surface areas of solid figures. They can solve for the length of missing segments in more complex similarity situations. Students can apply the Pythagorean Theorem to find the hypotenuse of a right triangle. They are beginning to use rectangular coordinates in problem-solving situations and can apply geometric properties and relationships in solving problems.

Students can compute means from frequency tables and create a sample space to determine probabilities, and read the graph of a step-function. Students can use exponents and evaluate expressions given in functional notation. In number theory, they have an understanding of even and odd numbers and their properties. They can identify an equation describing a linear relation provided in a table, and solve literal equations and systems of two linear equations. They have some knowledge of trigonometric relations. These students can represent and interpret complex patterns and data using numbers, expressions, and graphs. Given the graph of a function they can identify its zeros and the effect on the graph of taking the absolute value of the function.

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TABLE A.2 | Overall Average Mathematics Proficiency and Anchor Levels

PUBLIC SCHOOLS	Grade 4 - 1992				
	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	217 (0.8)	71 (1.0)	16 (0.9)	0 (0.1)	0 (0.0)
Northeast	223 (2.1)	75 (2.5)	22 (2.7)	1 (0.3)	0 (0.0)
Southeast	209 (1.9)	61 (2.4)	10 (1.6)	0 (0.2)	0 (0.0)
Central	222 (2.2)	77 (2.9)	19 (2.0)	0 (0.1)	0 (0.0)
West	217 (1.6)	70 (1.9)	15 (2.0)	0 (0.3)	0 (0.0)
STATES					
Alabama	207 (1.6)	58 (2.1)	9 (1.1)	0 (0.0)	0 (0.0)
Arizona	214 (1.1)	68 (1.5)	12 (0.9)	0 (0.1)	0 (0.0)
Arkansas	209 (0.9)	62 (1.4)	9 (0.7)	0 (0.0)	0 (0.0)
California	207 (1.6)	60 (2.0)	11 (1.1)	0 (0.1)	0 (0.0)
Colorado	220 (1.0)	75 (1.2)	17 (1.0)	0 (0.1)	0 (0.0)
Connecticut	226 (1.2)	79 (1.3)	23 (1.4)	1 (0.3)	0 (0.0)
Delaware	217 (0.8)	69 (1.2)	15 (1.0)	0 (0.1)	0 (0.0)
Dist. Columbia	191 (0.5)	37 (1.5)	5 (0.3)	0 (0.1)	0 (0.0)
Florida	212 (1.5)	66 (1.9)	12 (1.2)	0 (0.2)	0 (0.0)
Georgia	214 (1.3)	67 (1.6)	14 (1.1)	0 (0.1)	0 (0.0)
Hawaii	213 (1.3)	65 (1.6)	14 (0.9)	0 (0.1)	0 (0.0)
Idaho	220 (1.0)	77 (1.6)	14 (1.0)	0 (0.1)	0 (0.0)
Indiana	220 (1.1)	75 (1.4)	14 (1.0)	0 (0.1)	0 (0.0)
Iowa	229 (1.1)	84 (1.1)	24 (1.1)	0 (0.1)	0 (0.0)
Kentucky	214 (1.0)	67 (1.4)	12 (1.0)	0 (0.1)	0 (0.0)
Louisiana	203 (1.4)	54 (1.9)	7 (0.8)	0 (0.1)	0 (0.0)
Maine	231 (1.0)	86 (1.0)	26 (1.5)	1 (0.2)	0 (0.0)
Maryland	216 (1.3)	67 (1.5)	17 (1.2)	0 (0.2)	0 (0.0)
Massachusetts	226 (1.2)	80 (1.1)	22 (1.4)	0 (0.2)	0 (0.0)
Michigan	219 (1.8)	73 (2.0)	17 (1.6)	0 (0.2)	0 (0.0)
Minnesota	227 (0.9)	81 (1.2)	24 (1.1)	0 (0.1)	0 (0.0)
Mississippi	200 (1.1)	50 (1.6)	6 (0.6)	0 (0.1)	0 (0.0)
Missouri	221 (1.2)	76 (1.5)	17 (1.2)	0 (0.1)	0 (0.0)
Nebraska	224 (1.3)	78 (1.5)	20 (1.6)	0 (0.2)	0 (0.0)
New Hampshire	229 (1.2)	84 (1.2)	23 (1.6)	0 (0.2)	0 (0.0)
New Jersey	226 (1.5)	80 (1.8)	23 (1.6)	0 (0.2)	0 (0.0)
New Mexico	212 (1.5)	65 (2.1)	10 (1.3)	0 (0.1)	0 (0.0)
New York	217 (1.3)	71 (1.5)	16 (1.3)	0 (0.2)	0 (0.0)
North Carolina	211 (1.1)	64 (1.6)	12 (0.8)	0 (0.1)	0 (0.0)
North Dakota	228 (0.8)	85 (0.9)	21 (1.1)	0 (0.1)	0 (0.0)
Ohio	217 (1.2)	71 (1.5)	15 (1.1)	0 (0.1)	0 (0.0)
Oklahoma	219 (1.0)	76 (1.5)	13 (1.0)	0 (0.1)	0 (0.0)
Pennsylvania	223 (1.4)	77 (1.5)	20 (1.4)	0 (0.2)	0 (0.0)
Rhode Island	214 (1.6)	68 (1.8)	12 (1.1)	0 (0.1)	0 (0.0)
South Carolina	211 (1.1)	63 (1.3)	12 (1.1)	0 (0.1)	0 (0.0)
Tennessee	209 (1.4)	63 (1.9)	9 (1.0)	0 (0.1)	0 (0.0)
Texas	217 (1.3)	71 (1.8)	14 (1.2)	0 (0.1)	0 (0.0)
Utah	223 (1.0)	79 (1.2)	18 (1.0)	0 (0.1)	0 (0.0)
Virginia	220 (1.3)	73 (1.5)	18 (1.6)	1 (0.3)	0 (0.0)
West Virginia	214 (1.1)	68 (1.6)	11 (0.9)	0 (0.1)	0 (0.0)
Wisconsin	228 (1.1)	83 (1.2)	23 (1.4)	0 (0.2)	0 (0.0)
Wyoming	224 (1.0)	82 (1.2)	17 (1.2)	0 (0.1)	0 (0.0)
TERRITORY					
Guam	191 (0.8)	40 (1.2)	4 (0.5)	0 (0.0)	0 (0.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent.

TABLE A.2 | Overall Average Mathematics Proficiency and Anchor Levels (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					Grade 8 - 1990				
	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	266 (1.0)	96 (0.4)	67 (1.1)	18 (0.9)	1 (0.2)	262 (1.4)	95 (0.7)	64 (1.4)	15 (1.1)	1 (0.3)
Northeast	267 (3.0)	96 (0.9)	65 (3.7)	21 (2.3)	1 (0.5)	270 (3.3)	97 (1.0)	72 (3.8)	20 (3.2)	1 (0.5)
Southeast	258 (1.2)	95 (1.0)	58 (1.6)	12 (1.1)	0 (0.1)	254 (2.6)	93 (2.0)	55 (2.9)	11 (2.1)	0 (0.3)
Central	273 (2.2)	98 (0.6)	75 (2.4)	22 (2.6)	1 (0.3)	265 (2.3)	96 (1.3)	68 (2.8)	14 (1.5)	0 (0.4)
West	267 (2.1)	96 (0.6)	68 (2.3)	19 (1.8)	1 (0.4)	261 (2.6)	94 (1.4)	62 (2.5)	14 (2.1)	1 (0.4)
STATES										
Alabama	251 (1.7)	93 (1.2)	51 (2.0)	9 (0.9)	0 (0.1)	253 (1.1)	94 (0.7)	53 (1.5)	9 (0.6)	0 (0.1)
Arizona	265 (1.3) >	97 (0.4)	68 (1.7)	14 (1.1)	0 (0.1)	260 (1.3)	95 (0.7)	62 (1.8)	12 (0.9)	0 (0.2)
Arkansas	255 (1.2)	94 (0.7)	58 (1.6)	9 (0.9)	0 (0.1)	256 (0.9)	95 (0.6)	58 (1.3)	9 (0.7)	0 (0.1)
California	260 (1.7)	93 (0.8)	61 (2.0)	15 (1.3)	1 (0.3)	256 (1.3)	93 (0.6)	57 (1.5)	12 (1.2)	0 (0.2)
Colorado	272 (1.1) >	98 (0.4)	75 (1.2) >	20 (1.1) >	0 (0.2)	267 (0.9)	97 (0.4)	71 (1.1)	16 (1.0)	0 (0.1)
Connecticut	273 (1.1) >	97 (0.7)	74 (1.3)	24 (1.0)	1 (0.1)	270 (1.0)	97 (0.5)	72 (1.3)	21 (1.0)	1 (0.2)
Delaware	262 (1.0)	96 (0.8)	64 (1.3)	14 (0.9)	1 (0.2)	261 (0.9)	95 (0.7)	61 (1.2)	14 (0.8)	1 (0.3)
Dist. Columbia	234 (0.9) >	82 (1.0)	32 (1.3) >	4 (0.9)	0 (0.2)	231 (0.9)	83 (1.1)	26 (1.1)	3 (0.5)	0 (0.2)
Florida	259 (1.5)	94 (0.8)	61 (1.8)	14 (1.1)	0 (0.2)	255 (1.3)	93 (0.7)	56 (1.5)	11 (0.9)	0 (0.1)
Georgia	259 (1.2)	95 (0.6)	60 (1.5)	12 (0.9)	0 (0.2)	259 (1.3)	95 (0.6)	60 (1.4)	13 (1.1)	1 (0.4)
Hawaii	257 (0.9) »	93 (0.7) >	57 (1.2) »	13 (0.7)	0 (0.2)	251 (0.8)	90 (0.7)	51 (1.1)	11 (0.7)	1 (0.1)
Idaho	274 (0.8) >	99 (0.3)	80 (1.0)	20 (1.1)	0 (0.1)	271 (0.8)	99 (0.4)	77 (1.2)	17 (1.1)	0 (0.1)
Indiana	269 (1.2)	98 (0.5)	72 (1.3)	19 (1.2)	1 (0.3)	267 (1.1)	98 (0.4)	70 (1.5)	16 (1.1)	1 (0.2)
Iowa	283 (1.0) »	100 (0.2)	86 (1.1) >	29 (1.3) >	1 (0.3)	278 (1.1)	99 (0.3)	81 (1.1)	24 (1.4)	1 (0.2)
Kentucky	261 (1.1) >	96 (0.6)	64 (1.3) >	13 (1.0)	0 (0.2)	257 (1.2)	96 (0.6)	58 (1.7)	10 (0.8)	0 (0.1)
Louisiana	249 (1.7)	92 (0.9)	50 (1.9)	7 (1.0)	0 (0.1)	246 (1.2)	92 (0.8)	46 (1.8)	5 (0.5)	0 (0.1)
Maine	278 (1.0)	99 (0.4)	83 (1.2)	24 (1.4)	1 (0.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	264 (1.3)	95 (0.7)	64 (1.4)	19 (1.2)	1 (0.4)	261 (1.4)	94 (0.7)	61 (1.7)	16 (1.2)	1 (0.2)
Massachusetts	272 (1.1)	98 (0.5)	74 (1.5)	22 (1.3)	1 (0.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	267 (1.4)	96 (0.5)	69 (1.5)	18 (1.4)	0 (0.2)	264 (1.2)	97 (0.5)	67 (1.3)	15 (1.1)	1 (0.2)
Minnesota	282 (1.0) »	99 (0.2)	83 (1.1) >	29 (1.2) »	1 (0.3)	275 (0.9)	98 (0.4)	79 (1.0)	22 (1.2)	1 (0.3)
Mississippi	246 (1.2)	90 (0.8)	45 (1.4)	6 (0.7)	0 (0.0)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	270 (1.2)	98 (0.5)	74 (1.6)	18 (1.3)	0 (0.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	277 (1.1)	98 (0.3)	81 (1.1)	25 (1.6)	1 (0.2)	276 (1.0)	98 (0.4)	79 (1.1)	23 (1.2)	1 (0.3)
New Hampshire	278 (1.0) »	99 (0.3)	82 (1.0) >	23 (1.3)	1 (0.2)	273 (0.9)	99 (0.4)	78 (1.4)	19 (1.2)	1 (0.2)
New Jersey	271 (1.6)	97 (0.6)	73 (1.8)	22 (1.4)	1 (0.3)	270 (1.1)	98 (0.6)	71 (1.4)	20 (1.1)	1 (0.2)
New Mexico	259 (0.9) >	96 (0.6)	61 (1.3)	10 (0.8)	0 (0.1)	256 (0.7)	96 (0.5)	57 (1.2)	10 (0.9)	0 (0.2)
New York	266 (2.1)	94 (1.2)	68 (2.3)	19 (1.2) >	1 (0.2)	261 (1.4)	94 (0.9)	63 (1.6)	15 (0.9)	1 (0.3)
North Carolina	258 (1.2) »	95 (0.6) >	59 (1.4) »	11 (0.9) >	0 (0.1)	250 (1.1)	92 (0.7)	51 (1.4)	8 (0.7)	0 (0.1)
North Dakota	283 (1.2)	100 (0.2)	87 (1.1)	28 (1.6)	0 (0.2)	281 (1.2)	99 (0.3)	86 (1.4)	26 (1.8)	1 (0.4)
Ohio	267 (1.5)	97 (0.5)	70 (1.7)	17 (1.3)	0 (0.2)	264 (1.0)	97 (0.4)	66 (1.3)	14 (1.0)	0 (0.1)
Oklahoma	267 (1.2) >	97 (0.4)	72 (1.6) >	16 (1.2)	0 (0.1)	263 (1.3)	97 (0.5)	66 (1.5)	13 (1.1)	0 (0.2)
Pennsylvania	271 (1.5)	98 (0.6)	73 (1.6)	20 (1.4)	0 (0.2)	266 (1.6)	97 (0.6)	69 (2.0)	16 (1.3)	1 (0.2)
Rhode Island	265 (0.7) »	97 (0.4) >	68 (1.2) »	15 (0.9)	0 (0.2)	260 (0.6)	95 (0.5)	61 (0.7)	14 (0.7)	0 (0.2)
South Carolina	260 (1.0)	96 (0.6)	60 (1.2)	14 (1.0)	0 (0.1)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	258 (1.4)	95 (0.6)	59 (1.8)	11 (1.0)	0 (0.1)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	264 (1.3) >	96 (0.4)	64 (1.5)	17 (1.2) >	1 (0.3)	258 (1.4)	95 (0.8)	59 (1.6)	12 (1.1)	0 (0.2)
Utah	274 (0.7)	99 (0.3)	78 (1.1)	21 (1.1)	0 (0.2)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	267 (1.2)	97 (0.3)	68 (1.4)	18 (1.0)	1 (0.2)	264 (1.5)	97 (0.5)	64 (1.5)	17 (1.5)	1 (0.4)
West Virginia	258 (1.0)	97 (0.5)	60 (1.6)	9 (0.8)	0 (0.0)	256 (1.0)	96 (0.6)	57 (1.4)	9 (0.8)	0 (0.1)
Wisconsin	277 (1.5)	98 (0.4)	80 (1.8)	26 (1.3)	1 (0.2)	274 (1.3)	99 (0.4)	78 (1.5)	22 (1.4)	1 (0.2)
Wyoming	274 (0.9) >	99 (0.3)	79 (1.1)	19 (0.9)	0 (0.2)	272 (0.7)	99 (0.2)	78 (1.0)	18 (0.9)	0 (0.1)
TERRITORIES										
Guam	234 (1.0) >	80 (1.1)	34 (1.4)	5 (0.6)	0 (0.1)	232 (0.7)	79 (1.0)	32 (1.2)	4 (0.3)	0 (0.1)
Virgin Islands	222 (1.1) >	76 (1.7)	18 (1.4)	1 (0.3)	0 (0.0)	219 (0.9)	74 (1.3)	14 (1.0)	1 (0.3)	0 (0.0)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. (xxx) Did not participate in the 1990 Trial State Assessment.

Level 200

Addition and Subtraction, and Simple Problem Solving With Whole Numbers

EXAMPLE: Level 200

Divide 108 by 9.

Answer: 12

Did you use the calculator on this question?

[✓ Yes] No

Overall Percent Correct*

Grade 4: 89(0.7)

Conditional-Level 200

Grade 4: 89%

EXAMPLE: Level 200

What number is four hundred five and three-tenths?

A 45.3

[✓ B] 405.3

C 453

D 4,005.3

Overall Percent Correct*

Grade 4: 69(1.4)

Grade 8: 93(0.6)

Conditional-Level 200

Grade 4: 59%

Grade 8: --

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

-- Insufficient number of respondents at Level 200.

EXAMPLE: Level 200

There are 50 hamburgers to serve 38 children. If each child is to have at least one hamburger, at most how many of the children can have more than one?

A 6

[✓ B] 12

C 26

D 38

Overall Percent Correct*

Grade 4: 67(1.5)

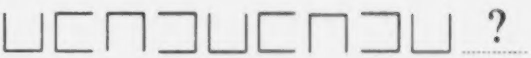
Grade 8: 92(0.8)

Conditional-Level 200

Grade 4: 59%

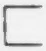
Grade 8: --

EXAMPLE: Level 200



In the pattern above, which figure would be next?

A

[✓ B] 

C

D

Overall Percent Correct*

Grade 4: 91(0.8)

Grade 8: 96(0.5)

Conditional-Level 200

Grade 4: 90%

Grade 8: --

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

---

* The standard errors of the estimated percentages appear in parentheses.

-- Insufficient number of respondents at Level 200.

Level 250

Multiplication and Division, Simple Measurement, and Two-Step Problem Solving

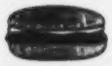
EXAMPLE: Level 250

Overall Percent Correct*

Grade 4: 45(1.4)

Conditional-Level 250

Grade 4: 67%


Cheeseburger
393 Calories

Hot Dog
298 Calories

Yogurt
214 Calories

Cookie
119 Calories

Which two of the items above would provide a total of about 600 calories?

Answer: Cheeseburger
Yogurt

(One possible answer)

Did you use the calculator on this question?

[✓ Yes] No

EXAMPLE: Level 250

Overall Percent Correct*

Grade 4

Part One: 52(1.5)

Part Two: 49(1.7)

Conditional-Level 250

Grade 4

Part One: 72%

Part Two: 78%

POINTS EARNED FROM SCHOOL EVENTS

Class	Mathathon	Readathon
Mr. Lopez	425	411
Ms. Chen	328	456
Mrs. Green	447	342

What was the total number of points earned from the mathathon?

Answer: 1200

Did you use the calculator on this question?

Yes No

Ms. Chen's class earned how many more points from the readathon than from the mathathon?

Answer: 128

Did you use the calculator on this question?

[✓ Yes] No

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

EXAMPLE: Level 250

Overall Percent Correct*

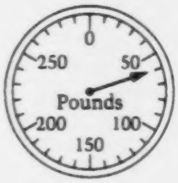
Grade 4: 44(1.5)

Grade 8: 79(1.2)

Conditional-Level 250

Grade 4: 63%

Grade 8: 77%



What is the weight shown on the scale?

A 6 pounds

B 7 pounds

C 51 pounds

[✓ D] 60 pounds

EXAMPLE: Level 250

Overall Percent Correct*

Grade 4: 40(1.1)

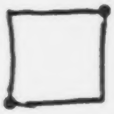
Grade 8: 67(1.5)

Conditional-Level 250

Grade 4: 62%

Grade 8: 63%

In the space below, use your ruler to draw a square with two of its corners at the points shown.



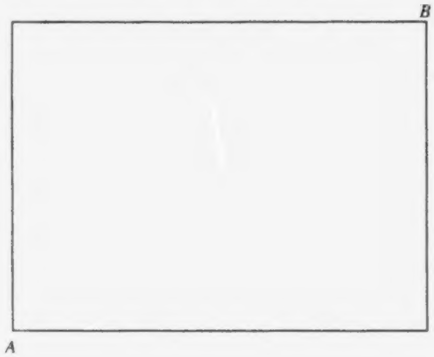
(One possible answer)

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

EXAMPLE: Level 250

(Size reduced from original)



Use your centimeter ruler to make the following measurements to the nearest centimeter.

What is the length in centimeters of one of the longer sides of the rectangle?

Answer: 8 centimeters

What is the length in centimeters of the diagonal from *A* to *B* ?

Answer: 10 centimeters

Overall Percent Correct*

Grade 4

Part One: 52(1.5)
Part Two: 60(1.2)

Grade 8

Part One: 71(1.5)
Part Two: 79(1.1)

Conditional-Level 250

Grade 4

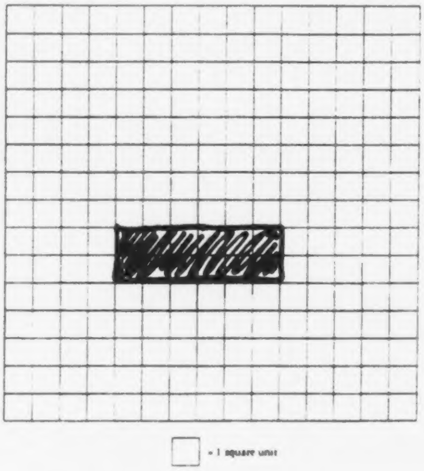
Part One: 86%
Part Two: 89%

Grade 8

Part One: 64%
Part Two: 75%

EXAMPLE: Level 250

On the grid below, draw a rectangle with an area of 12 square units.



(One possible answer)

Overall Percent Correct*

Grade 4: 42(1.4)

Grade 8: 66(1.5)

Conditional-Level 250

Grade 4: 62%

Grade 8: 59%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

EXAMPLE: Level 250

In the multiplication problem below, write the missing number in the box.

$$\begin{array}{r} 23\boxed{7} \\ \times\ 8 \\ \hline 1{,}896 \end{array}$$

Did you use the calculator on this question?

Yes No

Overall Percent Correct*

Grade 4: 58(1.3)

Conditional-Level 250

Grade 4: 77%

EXAMPLE: Level 250

If ☐ represents the number of newspapers that Lee delivers each day, which of the following represents the total number of newspapers that Lee delivers in 5 days?

- A $5 + \square$
- [✓ B] $5 \times \square$
- C $\square - 5$
- D $(\square + \square) \times 5$

Overall Percent Correct*

Grade 4: 48(1.2)

Grade 8: 81(1.0)

Conditional-Level 250

Grade 4: 63%

Grade 8: 78%

EXAMPLE: Level 250

If k can be replaced by any number, how many different values can the expression $k + 6$ have?

- A None
- B One
- C Six
- D Seven
- [✓ E] Infinitely many

Did you use the calculator on this question?

Yes [✓ No]

Overall Percent Correct*

Grade 8: 72(1.4)

Grade 12: 88(0.8)

Conditional-Level 250

Grade 8: 61%

Grade 12: 58%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

Level 300

Reasoning and Problem Solving Involving Fractions, Decimals, Percents and Elementary Concepts in Geometry, Statistics, and Algebra

EXAMPLE: Level 300

Jill needs to earn $45.00 for a class trip. She earns $2.00 each day on Mondays, Tuesdays, and Wednesdays, and $3.00 each day on Thursdays, Fridays, and Saturdays. She does not work on Sundays. How many weeks will it take her to earn $45.00 ?

Answer: 3 weeks

Overall Percent Correct*

Grade 4: 22(1.4)

Grade 8: 59(1.4)

Conditional-Level 300

Grade 4: --

Grade 8: 76%

EXAMPLE: Level 300

Of the following, which is closest in value to 0.52 ?

A $\frac{1}{50}$

B $\frac{1}{5}$

C $\frac{1}{4}$

D $\frac{1}{3}$

[✓ **E**] $\frac{1}{2}$

Correct Percent Correct*

Grade 8: 51(1.7)

Conditional-Level 300

Grade 8: 75%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.
-- Insufficient number of respondents at Level 300.

EXAMPLE: Level 300

Raymond must buy enough paper to print 28 copies of a report that contains 64 sheets of paper. Paper is only available in packages of 500 sheets. How many whole packages of paper will he need to buy to do the printing?

Answer 4

Did you use the calculator on this question?

[✓ Yes] No

Overall Percent Correct*

Grade 8: 52(1.4)

Grade 12: 72(1.4)

Conditional-Level 300

Grade 8: 81%

Grade 12: 79%

EXAMPLE: Level 300

Ken bought a used car for $5,375. He had to pay an additional 15 percent of the purchase price to cover both sales tax and extra fees. Of the following, which is closest to the total amount Ken paid?

A $806

B $5,510

C $5,760

D $5,940

[✓ E] $6,180

Did you use the calculator on this question?

[✓ Yes] No

Overall Percent Correct*

Grade 8: 40(1.2)

Grade 12: 69(1.2)

Conditional-Level 300

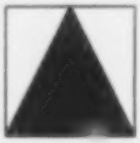
Grade 8: 62%

Grade 12: 72%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

[*] The standard errors of the estimated percentages appear in parentheses.

EXAMPLE: Level 300



If the area of the shaded triangle shown above is 4 square inches, what is the area of the entire square?

A 4 square inches

[✓ B] 8 square inches

C 12 square inches

D 16 square inches

E Not enough information given

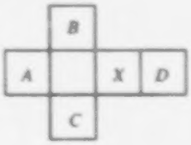
Overall Percent Correct*

Grade 8: 49(1.4)

Conditional-Level 300

Grade 8: 66%

EXAMPLE: Level 300



The squares in the figure above represent the faces of a cube which has been cut along some edges and flattened. When the original cube was resting on face *X*, which face was on top?

[✓ A] *A*

B *B*

C *C*

D *D*

Overall Percent Correct*

Grade 4: 22(1.4)

Grade 8: 55(1.6)

Conditional-Level 300

Grade 4: --

Grade 8: 84%

EXAMPLE: Level 300

In a bag of marbles, $\frac{1}{2}$ are red, $\frac{1}{4}$ are blue, $\frac{1}{6}$ are green, and $\frac{1}{12}$ are yellow. If a marble is taken from the bag without looking, it is most likely to be

[✓ A] red

B blue

C green

D yellow

Overall Percent Correct*

Grade 4: 25(1.4)

Grade 8: 73(1.4)

Conditional-Level 300

Grade 4: --

Grade 8: 98%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.
-- insufficient number of respondents at Level 300.

EXAMPLE: Level 300

Akira read from a book on Monday, Tuesday, and Wednesday. He read an average of 10 pages per day. Indicate in the ovals below whether each of the following is possible or not possible.

			Pages Read		
Possible	Not Possible		Monday	Tuesday	Wednesday
A	[✓ A]	(a)	4 pages	4 pages	2 pages
[✓ B]	B	(b)	9 pages	10 pages	11 pages
[✓ C]	C	(c)	5 pages	10 pages	15 pages
D	[✓ D]	(d)	10 pages	15 pages	20 pages

Overall Percent Correct*
All Four Parts

Grade 8: 38(1.6)

Each Part

A 57(1.5)
B 69(1.5)
C 61(1.7)
D 75(1.6)

Conditional-Level 300

Grade 8:

Each Part

A 83%
B 87%
C 82%
D 87%

EXAMPLE: Level 300

$54 < 3 \times \square$

Write two numbers that could be put in the ☐ to make the number sentence above true.

Answer 1, 10 (one possible answer)

Overall Percent Correct*

Grade 8: 49(1.6)

Conditional-Level 300

Grade 8: 79%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

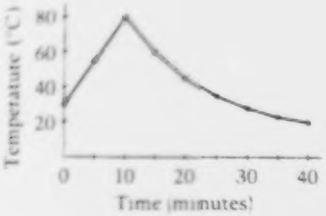
EXAMPLE: Level 300

Overall Percent Correct*

Grade 12: 74(1.4)

Conditional-Level

Grade 12: 77%



The graph above best conveys information about which of the following situations over a 40-minute period of time?

A Oven temperature while a cake is being baked

[✓ B] Temperature of water that is heated on a stove, then removed and allowed to cool

C Ocean temperature in February along the coast of Maine

D Body temperature of a person with a cold

E Temperature on a July day in Chicago

Did you use the calculator on this question?

Yes [✓ No]

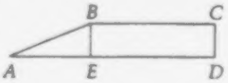
Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

Level 350

Reasoning and Problem Solving Involving Geometric Relationships, Algebra, and Functions

Example: Level 350



The area of rectangle *BCDE* shown above is 60 square inches. If the length of *AE* is 10 inches and the length of *ED* is 15 inches, what is the area of trapezoid *ABCD*, in square inches?

Answer 80

Did you use the calculator on this question?

Yes [✓ No]

Overall Percent Correct*

Grade 8: 10(0.9)

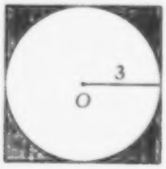
Grade 12: 23(1.6)

Conditional-Level 350

Grade 8: --

Grade 12: 79%

EXAMPLE: Level 350



In the figure above, a circle with center *O* and radius of length 3 is inscribed in a square. What is the area of the shaded region?

A 3.86

[✓ B] 7.73

C 28.27

D 32.86

E 36.00

Did you use the calculator on this question?

[✓ Yes] No

Overall Percent Correct*

Grade 8: 29(1.3)

Grade 12: 37(1.1)

Conditional-Level 350

Grade 8: --

Grade 12: 77%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

-- Insufficient number of respondents at Level 350.

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EXAMPLE: Level 350

Overall Percent Correct[*]

Grade 12: 32(1.4)

Conditional-Level 350

Grade 12: 79%

In the xy-plane, a line parallel to the x axis intersects the y axis at the point (0, 4). This line also intersects a circle in two points. The circle has a radius of 5 and its center is at the origin. What are the coordinates of the two points of intersection?

A (1, 2) and (2, 1)

B (2, 1) and (2, −1)

C (3, 4) and (3, −4)

[✓ **D**] (3, 4) and (−3, 4)

E (5, 0) and (−5, 0)

Did you use the calculator on this question?

Yes [✓ No]

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

[*] The standard errors of the estimated percentages appear in parentheses.

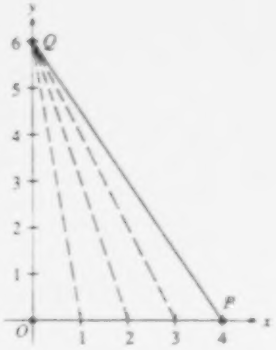
EXAMPLE: Level 350

Overall Percent Correct*

Grade 12: 29(1.5)

Conditional-Level 350

Grade 12: 92%



In the figure above, point Q is fixed and point P starts at 4 and moves left along the x-axis. As P moves left along the x-axis toward O, the area of $\triangle POQ$ changes.

Use the information given to complete the table below to show how the area of $\triangle POQ$ changes as P goes from the position shown to the origin O.

x - coordinate of P	Area of ΔPOQ
4	12
3	9
2	6
1	3
0	0

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

EXAMPLE: Level 350

If $f(x) = 4x^2 - 7x + 5.7$, what is the value of $f(3.5)$?

Answer: 30.2

Did you use the calculator on this question?

[✓ Yes] No

Overall Percent Correct*

Grade 12: 39(1.6)

Conditional-Level 350

Grade 12: 90%

EXAMPLE: Level 350

For what value of x is $8^{12} = 16^x$?

- **A** 3
- **B** 4
- **C** 8
- [✓ **D**] 9
- **E** 12

Did you use the calculator on this question?

[✓ Yes] No

Overall Percent Correct*

Grade 12: 34(1.5)

Conditional-Level 350

Grade 12: 83%

Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

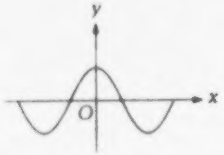
EXAMPLE: Level 350

Overall Percent Correct*

Grade 12: 20(1.3)

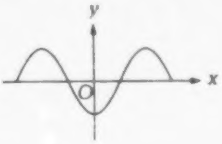
Conditional-Level 350

Grade 12: 60%

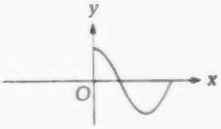


The figure above shows the graph of $y = f(x)$. Which of the following could be the graph of $y = |f(x)|$?

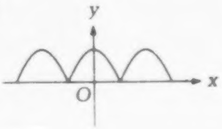
A



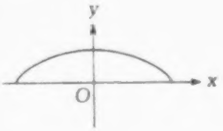
B



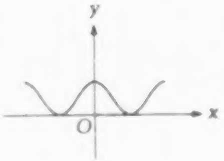
[✓ **C**]



D



E



Note: Conditional percentages show, of the students who performed at about the level (plus or minus 12.5 points), what percentage of those students were successful in answering the question.

* The standard errors of the estimated percentages appear in parentheses.

Anchor-Level Results by Region

TABLE A.3 Average Mathematics Proficiency and Anchor Levels by Region, Grades 4, 8, and 12

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grade 4							
Northeast	**1992**	21 (0.9)	223 (2.0)>	76 (2.4)	22 (2.4)	1 (0.3)	0 (0.0)
	1990	22 (1.0)	215 (2.9)	70 (4.0)	14 (3.2)	0 (0.1)	0 (0.0)
Southeast	**1992**	24 (0.9)	210 (1.6)>	63 (2.1)	10 (1.4)	0 (0.2)	0 (0.0)
	1990	25 (1.1)	205 (2.7)	56 (2.8)	8 (1.5)	0 (0.0)	0 (0.0)
Central	**1992**	27 (0.5)	223 (1.9)>	79 (2.5)	19 (1.7)	0 (0.1)	0 (0.0)
	1990	25 (0.8)	216 (1.7)	72 (2.9)	13 (1.7)	0 (0.3)	0 (0.0)
West	**1992**	28 (0.7)	218 (1.5)	71 (1.8)	16 (1.9)	0 (0.3)	0 (0.0)
	1990	28 (0.8)	216 (2.4)	71 (2.7)	14 (2.2)	0 (0.2)	0 (0.0)
Grade 8							
Northeast	**1992**	22 (0.8)	269 (2.7)	97 (0.7)	68 (3.2)	22 (2.4)	1 (0.4)
	1990	20 (0.9)	270 (2.8)	97 (0.9)	72 (3.3)	20 (2.7)	1 (0.4)
Southeast	**1992**	25 (0.7)	260 (1.4)	96 (0.9)	61 (1.6)	14 (1.3)	0 (0.1)
	1990	25 (1.1)	255 (2.5)	93 (1.9)	56 (2.9)	11 (2.0)	0 (0.3)
Central	**1992**	25 (0.6)	274 (1.9)>	98 (0.6)	76 (2.1)	23 (2.3)>	1 (0.3)
	1990	24 (0.8)	266 (2.3)	97 (1.1)	70 (2.6)	15 (1.5)	0 (0.4)
West	**1992**	28 (0.7)	268 (2.0)>	96 (0.6)	68 (2.2)	20 (1.7)	1 (0.3)
	1990	30 (1.0)	261 (2.6)	94 (1.3)	63 (2.6)	14 (2.0)	1 (0.4)
Grade 12							
Northeast	**1992**	24 (0.6)	302 (1.5)	100 (0.2)	92 (0.7)	54 (2.0)	8 (1.0)
	1990	24 (1.2)	300 (2.3)	100 (0.2)	90 (1.2)	51 (3.0)	8 (1.8)
Southeast	**1992**	24 (0.6)	291 (1.4)>	100 (0.2)	88 (1.3)	41 (2.2)	4 (0.5)
	1990	20 (1.1)	284 (2.2)	100 (0.3)	83 (2.0)	32 (2.9)	2 (0.5)
Central	**1992**	25 (0.6)	303 (1.8)	100 (0.0)	94 (0.8)	55 (2.6)	7 (0.8)
	1990	27 (0.8)	297 (2.6)	99 (0.4)	91 (1.8)	49 (3.3)	4 (1.5)
West	**1992**	27 (0.9)	298 (1.7)	100 (0.2)	92 (1.0)	49 (1.9)	6 (1.1)
	1990	29 (1.2)	294 (2.6)	100 (0.4)	88 (1.4)	45 (3.2)	6 (1.4)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent of 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

Anchor Level Results by Race Ethnicity

TABLE A.4 Average Mathematics Proficiency and Anchor Levels by Race/Ethnicity, Grades 4, 8, and 12

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grade 4							
White	**1992**	70 (0.2)	227 (0.9)>	82 (0.9)>	21 (1.2)>	0 (0.1)	0 (0.0)
	1990	70 (0.2)	220 (1.1)	77 (1.6)	16 (1.5)	0 (0.1)	0 (0.0)
Black	**1992**	16 (0.1)	192 (1.3)	39 (2.4)	2 (0.7)	0 (0.0)	0 (0.0)
	1990	15 (0.1)	189 (1.8)	36 (2.6)	1 (0.5)	0 (0.0)	0 (0.0)
Hispanic	**1992**	10 (0.2)	201 (1.4)	52 (2.1)	5 (1.0)	0 (0.1)	0 (0.0)
	1990	10 (0.2)	198 (2.0)	50 (3.0)	4 (1.1)	0 (0.0)	0 (0.0)
Asian/Pacific Islander	**1992**	2 (0.2)	231 (2.4)	84 (2.5)	28 (4.3)	1 (1.1)	0 (0.0)
	1990	2 (0.2)	228 (3.5)	82 (6.0)	23 (5.6)	0 (0.6)	0 (0.0)
American Indian	**1992**	2 (0.2)	209 (3.2)	63 (5.1)	9 (3.7)	0 (0.4)	0 (0.0)
	1990	2 (0.2)	208 (3.9)	61 (6.5)	4 (2.1)	0 (0.0)	0 (0.0)
Grade 8							
White	**1992**	70 (0.2)	277 (1.0)>	99 (0.2)	79 (1.1)>	25 (1.1)>	1 (0.2)
	1990	71 (0.3)	270 (1.4)	98 (0.5)	74 (1.5)	18 (1.3)	1 (0.3)
Black	**1992**	16 (0.1)	237 (1.4)	89 (1.6)	33 (2.2)	2 (0.6)	0 (0.2)
	1990	15 (0.2)	238 (2.7)	87 (2.7)	34 (3.2)	4 (1.0)	0 (0.0)
Hispanic	**1992**	10 (0.2)	246 (1.2)	91 (1.2)	46 (1.9)	6 (0.7)	0 (0.2)
	1990	10 (0.2)	244 (2.8)	90 (1.9)	45 (3.9)	4 (1.2)	0 (0.1)
Asian/Pacific Islander	**1992**	2 (0.2)	288 (5.5)!	99 (0.9)	84 (4.5)	39 (6.8)	4 (1.9)
	1990	2 (0.5)	279 (4.8)	97 (2.4)	79 (5.4)	30 (5.2)	1 (0.7)
American Indian	**1992**	1 (0.2)	254 (2.8)	98 (1.1)	54 (5.8)	6 (3.4)	0 (0.0)
	1990	2 (0.6)	246 (9.4)!	93 (3.3)	47(12.6)	6 (4.8)	0 (0.0)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. ! Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

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751

TABLE A.4 Average Mathematics Proficiency and Anchor Levels by Race/Ethnicity, Grades 4, 8, and 12 (continued)

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grade 12							
White	**1992**	71 (0.6)	305 (0.9)>	100 (0.1)	95 (0.4)>	58 (1.1)>	8 (0.6)
	1990	74 (0.6)	300 (1.2)	100 (0.1)	92 (0.8)	52 (1.5)	6 (1.0)
Black	**1992**	15 (0.4)	275 (1.7)>	100 (0.2)	78 (2.1)	22 (2.3)	1 (0.3)
	1990	14 (0.5)	268 (1.9)	98 (0.8)	71 (3.2)	16 (2.3)	0 (0.4)
Hispanic	**1992**	10 (0.5)	283 (1.8)>	100 (0.5)	84 (2.3)	30 (2.6)	2 (0.8)
	1990	8 (0.2)	276 (2.8)	99 (1.2)	77 (3.6)	24 (4.0)	2 (0.7)
Asian/Pacific Islander	**1992**	4 (0.2)	315 (3.5)	100 (0.0)	98 (0.9)	68 (4.3)	15 (4.3)
	1990	3 (0.3)	311 (5.2)	100 (0.0)	94 (1.9)	66 (5.8)	13 (7.9)
American Indian	**1992**	1 (0.1)	281 (9.0)	99 (5.0)	81 (9.2)	32(10.3)	1 (1.2)
	1990	1 (0.3)	288(10.2)!	95 (4.1)	83 (7.7)	49(16.3)	0 (0.0)

TABLE A.5 | Anchor Levels by Race/Ethnicity

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Level 200					Percentage of Students At or Above Level 250				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	82 (1.1)	38 (2.4)	49 (2.2)	85 (2.5)	62 (5.5)	21 (1.3)	2 (0.7)	4 (0.9)	28 (4.6)	10 (3.9)
Northeast	85 (2.0)	43 (4.6)	49 (6.6)	*** (***)	*** (***)	28 (3.4)	3 (1.5)	4 (1.6)	*** (***)	*** (***)
Southeast	75 (2.4)	36 (3.5)	50 (5.8)	*** (***)	*** (***)	14 (2.4)	2 (0.9)	5 (1.9)	*** (***)	*** (***)
Central	85 (2.5)	39 (5.8)	49 (5.1)	*** (***)	*** (***)	22 (2.4)	2 (1.9)	4 (3.4)	*** (***)	*** (***)
West	80 (2.1)	33 (6.6)	50 (3.0)	86 (3.4)	*** (***)	19 (2.7)	2 (1.4)	4 (1.5)	28 (5.2)	*** (***)
STATES										
Alabama	73 (2.0)	31 (1.7)	40 (6.6)	*** (***)	*** (***)	14 (1.5)	1 (0.5)	2 (1.2)	*** (***)	*** (***)
Arizona	81 (1.1)	47 (5.6)	53 (2.4)	*** (***)	37 (4.8)	18 (1.1)	3' (2.6)	4 (0.8)	*** (***)	3 (1.6)
Arkansas	73 (1.5)	32 (2.4)	45 (4.6)	*** (***)	65 (5.9)	12 (0.9)	1 (0.6)	1 (1.1)	*** (***)	8 (4.4)
California	75 (2.3)	33 (4.0)	41 (2.4)	77 (2.5)	63 (7.3)	17 (1.6)	2 (1.0)	3 (0.8)	19 (3.6)	9 (6.0)
Colorado	82 (1.2)	51 (6.0)	57 (2.5)	76 (6.8)	69 (7.3)	21 (1.3)	2 (1.4)	6 (1.4)	22 (5.3)	9 (4.4)
Connecticut	89 (0.9)	40 (4.1)	54 (4.2)	*** (***)	*** (***)	29 (1.7)	2 (1.1)	7 (2.0)	*** (***)	*** (***)
Delaware	81 (1.1)	44 (3.1)	44 (3.6)	*** (***)	*** (***)	21 (1.5)	3 (0.9)	3 (2.7)	*** (***)	*** (***)
Dist. Columbia	82 (4.5)	34 (1.8)	26 (2.6)	*** (***)	*** (***)	50 (6.2)	2 (0.4)	2 (0.9)	*** (***)	*** (***)
Florida	80 (1.4)	36 (2.9)	59 (3.8)	*** (***)	*** (***)	17 (1.8)	2 (0.6)	7 (1.3)	*** (***)	*** (***)
Georgia	84 (1.4)	43 (2.3)	44 (4.9)	*** (***)	*** (***)	23 (1.6)	2 (0.7)	4 (1.6)	*** (***)	*** (***)
Hawaii	72 (2.4)	48 (4.9)	48 (3.9)	68 (2.1)	*** (***)	19 (2.1)	4 (2.2)	6 (1.4)	14 (1.3)	*** (***)
Idaho	80 (1.4)	*** (***)	53 (4.4)	*** (***)	72 (6.0)	16 (1.1)	*** (***)	4 (1.3)	*** (***)	4 (3.0)
Indiana	80 (1.3)	39 (4.4)	65 (4.1)	*** (***)	*** (***)	17 (1.2)	2 (0.7)	3 (1.7)	*** (***)	*** (***)
Iowa	86 (1.0)	40 (6.9)!	76 (4.3)	*** (***)	*** (***)	26 (1.2)	2 (1.9)!	13 (3.5)	*** (***)	*** (***)
Kentucky	70 (1.4)	49 (4.7)	46 (4.4)	*** (***)	*** (***)	13 (1.1)	3 (2.0)	4 (2.4)	*** (***)	*** (***)
Louisiana	74 (2.2)	31 (1.9)	48 (6.2)	*** (***)	*** (***)	12 (1.3)	2 (0.4)	5 (1.9)	*** (***)	*** (***)
Maine	87 (1.0)	*** (***)	76 (4.4)	*** (***)	*** (***)	27 (1.7)	*** (***)	12 (5.2)	*** (***)	*** (***)
Maryland	81 (1.4)	41 (2.3)	56 (4.6)	85 (3.7)	*** (***)	25 (1.6)	3 (0.7)	9 (2.9)	31 (5.7)	*** (***)
Massachusetts	86 (0.8)	39 (5.2)	55 (4.2)	77 (7.9)	*** (***)	25 (1.6)	2 (1.4)	8 (2.4)	28 (8.1)	*** (***)
Michigan	83 (1.5)	31 (4.5)	56 (4.3)	*** (***)	67 (6.0)	21 (1.9)	2 (1.1)	7 (2.1)	*** (***)	6 (3.3)
Minnesota	85 (1.1)	40 (6.6)	55 (5.5)	*** (***)	*** (***)	27 (1.2)	4 (1.9)	10 (2.3)	*** (***)	*** (***)
Mississippi	73 (2.1)	34 (2.0)	31 (4.3)	*** (***)	*** (***)	12 (1.2)	1 (0.4)	2 (1.3)	*** (***)	*** (***)
Missouri	84 (1.5)	44 (3.2)	58 (4.5)	*** (***)	*** (***)	21 (1.4)	1 (0.6)	10 (2.8)	*** (***)	*** (***)
Nebraska	83 (1.4)	31 (4.5)	61 (5.4)	*** (***)	*** (***)	23 (1.7)	3 (2.4)	8 (3.2)	*** (***)	*** (***)
New Hampshire	85 (1.1)	*** (***)	71 (5.9)	*** (***)	*** (***)	25 (1.6)	*** (***)	10 (3.1)	*** (***)	*** (***)
New Jersey	91 (1.1)	47 (4.3)	57 (3.7)	92 (4.2)	*** (***)	30 (2.0)	2 (1.1)	5 (2.0)	38 (4.6)	*** (***)
New Mexico	80 (1.5)	58 (7.2)	52 (2.9)	*** (***)	62 (7.4)!	18 (2.1)	3 (2.7)	4 (1.1)	*** (***)	3 (2.0)!
New York	84 (1.5)	48 (4.5)	48 (3.2)	83 (5.2)!	*** (***)	22 (1.8)	3 (1.4)	4 (1.1)	35 (5.7)!	*** (***)
North Carolina	78 (1.4)	38 (2.5)	48 (6.8)	*** (***	53 (9.0)!	17 (1.1)	2 (0.6)	6 (2.4)	*** (***	7 (4.1)!
North Dakota	86 (0.8)	*** (***)	73 (6.8)	*** (***)	66 (8.1)!	22 (1.2)	*** (***)	6 (2.4)	*** (***	7 (3.3)!
Ohio	76 (1.4)	38 (4.3)	61 (5.9)	*** (***)	75 (6.3)	17 (1.3)	3 (1.0)	7 (1.9)	*** (***)	11 (5.2)
Oklahoma	82 (1.3)	48 (5.2)	64 (3.6)	*** (***)	66 (4.4)	15 (1.3)	2 (1.3)	6 (2.8)	*** (***	6 (2.0)
Pennsylvania	86 (1.3)	39 (4.1)	54 (3.5)	*** (***)	*** (***)	25 (1.4)	2 (0.8)	7 (2.3)	*** (***)	*** (***)
Rhode Island	77 (1.5)	36 (4.9)	35 (3.8)	39 (7.9)	*** (***)	15 (1.3)	2 (1.5)	1 (0.8)	1 (1.5)	*** (***)
South Carolina	80 (1.2)	39 (1.6)	46 (4.7)	*** (***)	*** (***)	19 (1.7)	2 (0.5)	6 (2.1)	*** (***)	*** (***)
Tennessee	73 (1.6)	37 (3.0)	39 (7.0)	*** (***)	*** (***)	12 (1.2)	1 (0.6)	2 (2.0)	*** (***)	*** (***)
Texas	84 (1.8)	47 (3.3)	61 (3.1)	86 (4.9)	*** (***)	22 (2.0)	3 (1.0)	7 (1.2)	33 (8.0)	*** (***)
Utah	81 (1.2)	*** (***)	61 (3.7)	*** (***)	*** (***)	19 (1.1)	*** (***)	7 (1.9)	*** (***)	*** (***)
Virginia	82 (1.5)	44 (3.1)	65 (6.4)	92 (3.5)	*** (***)	23 (2.0)	3 (0.9)	8 (3.2)	25 (7.3)	*** (***)
West Virginia	69 (1.5)	54 (9.5)	54 (5.2)	*** (***)	*** (***)	12 (0.9)	2 (1.7)	5 (2.6)	*** (***)	*** (***,
Wisconsin	89 (0.9)	41 (5.6)	67 (5.1)	*** (***)	58(12.1)!	27 (1.5)	2 (1.0)	9 (2.6)	*** (***)	5 (2.7)!
Wyoming	84 (1.2)	*** (***)	72 (3.0)	*** (***)	64 (6.2)!	19 (1.4)	*** (***)	7 (1.7)	*** (***)	9 (3.2)!
TERRITORY										
Guam	58 (3.3)	32 (5.7)	26 (2.5)	42 (1.7)	*** (***)	10 (1.7)	2 (2.4)	2 (0.8)	4 (0.7)	*** (***)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE A.5 | Anchor Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Level 300					Percentage of Students At or Above Level 350				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	0 (0.1)	0 (0.0)	0 (0.1)	1 (1.1)	0 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Northeast	1 (0.5)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Southeast	0 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Central	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
West	1 (0.5)	0 (0.0)	0 (0.2)	1 (1.6)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
STATES										
Alabama	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Arizona	0 (0.1)	0 (0.0)	0 (0.1)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Arkansas	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
California	0 (0.2)	0 (0.0)	0 (0.0)	1 (0.7)	0 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Colorado	0 (0.1)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Connecticut	1 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Delaware	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Dist. Columbia	2 (1.8)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Florida	0 (0.2)	0 (0.0)	0 (0.3)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Georgia	0 (0.2)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Hawaii	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.1)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
Idaho	0 (0.1)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)	*** (***)	0 (0.0)
Indiana	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Iowa	0 (0.2)	0 (0.0)!	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)!	0 (0.0)	*** (***)	*** (***)
Kentucky	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Louisiana	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Maine	1 (0.2)	*** (***)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	*** (***)	*** (***)
Maryland	1 (0.3)	0 (0.0)	0 (0.0)	2 (1.5)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
Massachusetts	0 (0.2)	0 (0.0)	0 (0.0)	3 (2.1)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
Michigan	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Minnesota	0 (0.1)	0 (0.6)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Mississippi	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Missouri	0 (0.2)	0 (0.0)	0 (0.4)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Nebraska	0 (0.2)	0 (0.0)	0 (0.3)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
New Hampshire	0 (0.2)	*** (***)	0 (1.2)	*** (***)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	*** (***)	*** (***)
New Jersey	0 (0.2)	0 (0.0)	0 (0.1)	1 (1.6)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
New Mexico	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)!	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)!
New York	0 (0.2)	0 (0.0)	0 (0.0)	2 (1.7)!	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)!	*** (***)
North Carolina	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)!	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)!
North Dakota	0 (0.1)	*** (***)	0 (0.0)	*** (***)	0 (0.0)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)	0 (0.0)
Ohio	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	0 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Oklahoma	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Pennsylvania	0 (0.2)	0 (0.0)	0 (0.2)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Rhode Island	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
South Carolina	0 (0.1)	0 (0.1)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Tennessee	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Texas	0 (0.1)	0 (0.0)	0 (0.0)	1 (1.9)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
Utah	0 (0.2)	*** (***)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	*** (***)	*** (***)
Virginia	1 (0.3)	0 (0.0)	0 (0.0)	2 (2.4)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
West Virginia	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Wisconsin	0 (0.2)	0 (0.0)	0 (0.2)	*** (***)	0 (0.0)!	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)!
Wyoming	0 (0.1)	*** (***)	0 (0.0)	*** (***)	0 (0.0)!	0 (0.0)	*** (***)	0 (0.0)	*** (***)	0 (0.0)!
TERRITORY										
Guam	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.1)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)

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TABLE A.5 | Anchor Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Percentage of Students At or Above Level 200					Percentage of Students At or Above Level 250				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	99 (0.2)	88 (1.7)	91 (1.4)	99 (1.1)	98 (1.0)	78 (1.2)	32 (2.3)	44 (2.1)	83 (5.2)	53 (6.2)
Northeast	99 (0.6)	91 (4.3)	88 (3.4)!	*** (***)	*** (***)	77 (3.7)	35 (4.2)	39 (5.9)!	*** (***)	*** (***)
Southeast	99 (0.5)	88 (2.9)	86 (4.6)!	*** (***)	*** (***)	72 (1.6)	28 (2.6)	39 (6.5)!	*** (***)	*** (***)
Central	100 (0.2)	89 (2.7)	94 (5.5)	*** (***)	*** (***)	83 (2.1)	37 (6.9)	48 (7.6)	*** (***)	*** (***)
West	99 (0.4)	87 (4.2)	91 (1.5)	99 (1.6)	*** (***)	79 (2.7)	30 (5.6)	45 (2.4)	81 (8.2)	*** (***)
STATES										
Alabama	98 (0.5)	86 (2.8)	73 (6.9)	*** (***)	*** (***)	66 (1.8)	26 (2.5)	19 (5.2)	*** (***)	*** (***)
Arizona	99 (0.2)	97 (2.0)	93 (1.4)	*** (***)	93 (1.7)	80 (1.4)	52 (6.1)	47 (3.8)	*** (***)	54 (4.2)»
Arkansas	98 (0.5)	84 (2.2)	79 (4.7)	*** (***)	*** (***)	69 (1.5)	24 (2.7)	29 (4.6)	*** (***)	*** (***)
California	99 (0.4)	83 (4.3)	87 (1.9)	98 (0.8)	*** (***)	79 (2.2)	32 (4.8)	39 (2.2)	75 (3.7)	*** (***)
Colorado	99 (0.3)	90 (3.9)	95 (1.1)	*** (***)	*** (***)	82 (1.1)	39 (6.1)	56 (2.4)	*** (***)	*** (***)
Connecticut	99 (0.3)	92 (2.8)	90 (2.6)	98 (2.4)	*** (***)	85 (1.2) >	40 (4.5)	39 (3.8)	80 (7.5)	*** (***)
Delaware	99 (0.5)	90 (1.5)	86 (4.7)	*** (***)	*** (***)	76 (1.5)	38 (3.2)	37 (4.6)	*** (***)	*** (***)
Dist. Columbia	*** (***)	83 (1.1)	70 (4.1)	*** (***)	*** (***)	*** (***)	30 (1.3) >	28 (4.3)	*** (***)	*** (***)
Florida	98 (0.4)	86 (2.1)	91 (2.3)	*** (***)	*** (***)	76 (1.6) >	34 (3.5)	47 (3.3)	*** (***)	*** (***)
Georgia	98 (0.5)	92 (1.4)	82 (5.3)	*** (***)	*** (***)	75 (1.7)	37 (2.1)	32 (7.8)	*** (***)	*** (***)
Hawaii	95 (1.5)	*** (***)	83 (2.5)	95 (0.7) >	*** (***)	68 (2.5)	*** (***)	40 (3.6)	58 (1.7) >	*** (***)
Idaho	99 (0.2)	*** (***)	96 (1.9)	*** (***)	98 (1.9)	82 (1.1)	*** (***)	55 (4.0)	*** (***)	60 (6.6)
Indiana	99 (0.4)	92 (2.5)	89 (3.8)	*** (***)	*** (***)	77 (1.4)	41 (3.8)	52 (7.0)	*** (***)	*** (***)
Iowa	100 (0.2)	*** (***)	99 (1.3)	*** (***)	*** (***)	88 (1.1) >	*** (***)	62 (6.2)	*** (***)	*** (***)
Kentucky	97 (0.5)	92 (3.2)	81 (5.6)	*** (***)	*** (***)	68 (1.1)	36 (4.4)	31 (6.5)	*** (***)	*** (***)
Louisiana	98 (0.5)	86 (1.9)	79 (4.1)	*** (***)	*** (***)	67 (2.1)	28 (2.7)	27 (3.8)	*** (***)	*** (***)
Maine	99 (0.4)	*** (***)	*** (***)	*** (***)	98 (1.5)	84 (1.1)	*** (***)	*** (***)	*** (***)	65 (8.2)
Maryland	98 (0.4)	89 (2.0)	86 (3.5)	97 (2.9)	*** (***)	80 (1.7)	36 (2.2)	38 (4.1)	82 (4.5)	*** (***)
Massachusetts	99 (0.2)	89 (3.3)	89 (3.8)	*** (***)	*** (***)	80 (1.6)	40 (6.7)	37 (5.2)	*** (***)	*** (***)
Michigan	99 (0.3)	86 (2.0)	89 (3.3)	*** (***)	*** (***)	81 (1.5) >	28 (3.1)	52 (6.5)	*** (***)	*** (***)
Minnesota	100 (0.2)	*** (***)	95 (2.7)	*** (***)	*** (***)	85 (1.0)	*** (***)	57 (6.1)	*** (***)	*** (***)
Mississippi	97 (0.7)	84 (1.5)	80 (3.5)	*** (***)	*** (***)	66 (1.9)	25 (1.6)	15 (3.6)	*** (***)	*** (***)
Missouri	99 (0.2)	93 (2.4)	95 (3.5)	*** (***)	*** (***)	80 (1.3)	37 (3.9)	45 (6.9)	*** (***)	*** (***)
Nebraska	99 (0.2)	88 (4.9)	95 (2.3)	*** (***)	*** (***)	86 (1.0)	34 (7.4)	54 (5.9)	*** (***)	*** (***)
New Hampshire	99 (0.3)	*** (***)	96 (2.7)	*** (***)	*** (***)	84 (0.9) >	*** (***)	60 (7.0)	*** (***)	*** (***)
New Jersey	100 (0.3)	92 (1.8)	91 (3.2)	100 (0.0)	*** (***)	86 (1.4)	40 (3.9)	48 (4.7)	91 (3.2)	*** (***)
New Mexico	98 (0.6)	*** (***)	95 (1.0)	*** (***)	98 (1.7)	78 (1.4)	*** (***)	47 (2.0)	*** (***)	50 (6.1)
New York	99 (0.3)	81 (3.3)	85 (3.5)	97 (2.4)	*** (***)	83 (1.7)	31 (5.5)	43 (5.6)	80 (6.6)	*** (***)
North Carolina	98 (0.5)	88 (1.5)	88 (4.7)	*** (***)	*** (***)	70 (1.3)	35 (2.4)	35 (6.3)	*** (***)	*** (***)
North Dakota	100 (0.1)	*** (***)	*** (***)	*** (***)	99 (2.1)!	88 (1.2)	*** (***)	*** (***)	*** (***)	71 (6.9)! >
Ohio	99 (0.3)	87 (2.7)	90 (4.8)	*** (***)	*** (***)	78 (1.7)	30 (2.9)	47 (6.9)	*** (***)	*** (***)
Oklahoma	99 (0.4)	90 (2.5)	92 (2.9)	*** (***)	97 (1.5)	78 (1.6)	35 (5.4)	52 (5.8)	*** (***)	67 (4.5)
Pennsylvania	99 (0.3)	88 (3.1)	91 (4.1)!	*** (***)	*** (***)	79 (1.4)	33 (5.7)	44 (5.1)!	*** (***)	*** (***)
Rhode Island	99 (0.2)	89 (3.6)	84 (2.8)	94 (3.2)	*** (***)	75 (1.4)»	37 (5.9)	28 (4.0)	69 (5.5)	*** (***)
South Carolina	99 (0.4)	93 (1.0)	89 (3.6)	*** (***)	*** (***)	76 (1.2)	37 (1.8)	28 (4.7)	*** (***)	*** (***)
Tennessee	98 (0.4)	88 (2.0)	78 (7.9)	*** (***)	*** (***)	69 (1.5)	29 (3.4)	30 (6.6)	*** (***)	*** (***)
Texas	99 (0.4)	92 (1.7)	93 (0.9)	100 (1.1)	*** (***)	81 (1.6)	39 (3.6)	48 (2.2)	90 (3.8)	*** (***)
Utah	99 (0.3)	*** (***)	95 (1.8)	*** (***)	*** (***)	80 (1.1)	*** (***)	56 (4.7)	*** (***)	*** (***)
Virginia	99 (0.3)	93 (0.9)	92 (3.3)	99 (0.7)	*** (***)	77 (1.4)	42 (2.9)	57 (4.6)	81 (3.9)	*** (***)
West Virginia	97 (0.5)	94 (2.2)	84 (4.9)	*** (***)	*** (***)	62 (1.5)	39 (7.1)	27 (6.6)	*** (***)	*** (***)
Wisconsin	99 (0.2)	91 (3.0)	90 (3.0)	*** (***)	96 (2.1)!	85 (1.3)	45 (8.9)	50 (6.7)	*** (***)	70 (10.2)!
Wyoming	99 (0.2)	*** (***)	97 (1.4)	*** (***)	98 (1.9)!	83 (1.0)	*** (***)	61 (3.5)	*** (***)	50 (5.4)!
TERRITORIES										
Guam	95 (3.4)	*** (***)	65 (3.6)	83 (1.3)	*** (***)	70 (6.2)	*** (***)	22 (2.9)	35 (1.6)	*** (***)
Virgin Islands	*** (***)	78 (1.9)	68 (3.6)	*** (***)	*** (***)	*** (***)	20 (1.6)	10 (1.8)	*** (***)	*** (***)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE A.5 | Anchor Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Percentage of Students At or Above Level 300					Percentage of Students At or Above Level 350				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	24 (1.2)	2 (0.5)	5 (0.8)	38 (8.0)	6 (3.4)	1 (0.2)	0 (0.2)	0 (0.1)	4 (2.2)	0 (0.0)
Northeast	29 (3.0)	3 (2.0)	6 (2.3)!	*** (***)	*** (***)	1 (0.6)	0 (0.7)	0 (0.0)!	*** (***)	*** (***)
Southeast	17 (1.4)	1 (0.6)	6 (2.9)!	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)!	*** (***)	*** (***)
Central	26 (3.0)	2 (1.2)	3 (1.4)	*** (***)	*** (***)	1 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
West	25 (2.2)	1 (0.9)	6 (0.9)	38 (14.0)	*** (***)	1 (0.4)	0 (0.0)	0 (0.1)	6 (3.4)	*** (***)
STATES										
Alabama	14 (1.4)	1 (0.5)	1 (1.4)	*** (***)	*** (***)	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Arizona	21 (1.6)	4 (2.4)	4 (0.9)	*** (***)	5 (2.5)	0 (0.2)	0 (0.0)	0 (0.2)	*** (***)	0 (0.0)
Arkansas	12 (1.0)	2 (0.8)	3 (1.8)	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
California	23 (2.2)	2 (1.1)	4 (1.1)	27 (3.2)	*** (***)	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.9)	*** (***)
Colorado	25 (1.3)	5 (2.8)	7 (1.0)	*** (***)	*** (***)	1 (0.2)	0 (0.0)	0 (0.2)	*** (***)	*** (***)
Connecticut	31 (1.2) >	3 (1.2)	3 (1.2)	44 (8.8)	*** (***)	1 (0.2)	0 (0.0)	0 (0.0)	3 (3.4)	*** (***)
Delaware	20 (1.1)	2 (0.8)	3 (2.9)	*** (***)	*** (***)	1 (0.3)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Dist. Columbia	*** (***)	2 (0.6)	5 (2.9)	*** (***)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Florida	21 (1.6) >	3 (1.0)	4 (1.2)	*** (***)	*** (***)	0 (0.3)	0 (0.1)	0 (0.0)	*** (***)	*** (***)
Georgia	17 (1.4)	3 (0.6)	4 (2.9)	*** (***)	*** (***)	0 (0.3)	0 (0.1)	0 (0.0)	*** (***)	*** (***)
Hawaii	16 (2.3)	*** (***)	3 (1.0)	14 (0.8)	*** (***)	1 (0.4)	*** (***)	0 (0.0)	1 (0.3)	*** (***)
Idaho	22 (1.2)	*** (***)	6 (1.8)	*** (***)	8 (3.4)	0 (0.2)	*** (***)	0 (0.0)	*** (***)	0 (0.0)
Indiana	21 (1.3)	3 (1.1)	7 (3.0)	*** (***)	*** (***)	1 (0.3)	0 (0.0)	0 (0.4)	*** (***)	*** (***)
Iowa	31 (1.3)	*** (***)	11 (4.0)	*** (***)	*** (***)	1 (0.3)	*** (***)	0 (0.0)	*** (***)	*** (***)
Kentucky	14 (1.1)	4 (1.7)	4 (2.5)	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Louisiana	11 (1.6)	1 (0.4)	1 (0.8)	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Maine	25 (1.5)	*** (***)	*** (***)	*** (***)	7 (4.3)	1 (0.2)	*** (***)	*** (***)	*** (***)	0 (2.5)
Maryland	28 (1.7)	2 (0.8)	4 (1.8)	39 (5.7)	*** (***)	1 (0.6)	0 (0.0)	0 (0.0)	5 (2.1)	*** (***)
Massachusetts	25 (1.4)	6 (2.3)	4 (1.8)	*** (***)	*** (***)	1 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Michigan	22 (1.7)	1 (0.5)	7 (3.0)	*** (***)	*** (***)	0 (0.2)	0 (0.3)	0 (0.5)	*** (***)	*** (***)
Minnesota	31 (1.2) >>	*** (***)	5 (2.2)	*** (***)	*** (***)	1 (0.3)	*** (***)	0 (0.0)	*** (***)	*** (***)
Mississippi	11 (1.3)	1 (0.5)	1 (0.6)	*** (***)	*** (***)	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Missouri	21 (1.4)	2 (1.0)	9 (4.3)	*** (***)	*** (***)	0 (0.2)	0 (0.3)	1 (0.9)	*** (***)	*** (***)
Nebraska	27 (1.7)	2 (1.3)	9 (2.6)	*** (***)	*** (***)	1 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
New Hampshire	24 (1.3)	*** (***)	10 (4.4)	*** (***)	*** (***)	1 (0.2)	*** (***)	0 (0.0)	*** (***)	*** (***)
New Jersey	29 (2.0)	3 (1.1)	5 (1.4)	49 (5.6)	*** (***)	1 (0.3)	0 (0.0)	0 (0.2)	4 (2.4)	*** (***)
New Mexico	18 (1.6)	*** (***)	4 (0.7)	*** (***)	1 (1.6)	0 (0.2)	*** (***)	0 (0.0)	*** (***)	0 (0.0)
New York	26 (1.5)	3 (1.4)	6 (1.7)	33 (7.8)	*** (***)	1 (0.3)	0 (0.2)	0 (0.2)	4 (3.1)	*** (***)
North Carolina	15 (1.1)	3 (0.6)	5 (3.9)	*** (***)	*** (***)	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
North Dakota	29 (1.6)	*** (***)	*** (***)	*** (***)	5 (3.0)!	0 (0.2)	*** (***)	*** (***)	*** (***)	0 (0.0)!
Ohio	20 (1.6)	2 (0.8)	5 (2.4)	*** (***)	*** (***)	0 (0.3)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Oklahoma	18 (1.4)	1 (1.1)	9 (2.8)	*** (***)	12 (3.0)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Pennsylvania	23 (1.4)	4 (2.5)	5 (3.0)!	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)!	*** (***)	*** (***)
Rhode Island	17 (1.1)	2 (1.7)	2 (0.9)	14 (3.3)	*** (***)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)
South Carolina	22 (1.6)	2 (0.6)	2 (1.2)	*** (***)	*** (***)	1 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Tennessee	14 (1.2)	2 (0.7)	2 (1.8)	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Texas	26 (1.9)	4 (1.3)	6 (1.1)	56 (6.9)	*** (***)	1 (0.4)	0 (0.0)	0 (0.2)	9 (4.4)	*** (***)
Utah	22 (1.2)	*** (***)	5 (2.5)	*** (***)	*** (***)	0 (0.2)	*** (***)	0 (0.0)	*** (***)	*** (***)
Virginia	22 (1.2)	4 (1.0)	11 (3.9)	31 (5.8)	*** (***)	1 (0.3)	0 (0.2)	0 (0.0)	1 (1.2)	*** (***)
West Virginia	9 (0.9)	3 (1.4)	2 (1.5)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Wisconsin	28 (1.3)	7 (5.1)	5 (2.4)	*** (***)	9 (3.4)!	1 (0.3)	0 (0.2)	0 (0.0)	*** (***)	0 (0.0)!
Wyoming	21 (1.0)	*** (***)	8 (2.3)	*** (***)	1 (0.9)!	0 (0.2)	*** (***)	0 (0.0)	*** (***)	0 (0.0)!
TERRITORIES										
Guam	18 (6.7)	*** (***)	2 (1.1)	5 (0.6)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	0 (0.1)	*** (***)
Virgin Islands	*** (***)	1 (0.3)	0 (0.0)	*** (***)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	*** (***)	*** (***)

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TABLE A.5 | Anchor Levels by Race/Ethnicity (continued)

	Grade 8 - 1990									
	Percentage of Students At or Above Level 200					Percentage of Students At or Above Level 250				
PUBLIC SCHOOLS	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	98 (0.5)	86 (2.8)	89 (2.0)	97 (2.7)!	93 (3.4)!	73 (1.6)	34 (3.2)	43 (4.0)	79 (6.1)!	46(12.2)!
Northeast	99 (0.6)	88 (5.7)!	*** (***)	*** (***)	*** (***)	77 (3.0)	45 (9.2)!	*** (***)	*** (***)	*** (***)
Southeast	97 (1.4)	85 (4.8)	*** (***)	*** (***)	*** (***)	67 (3.8)	32 (4.2)	*** (***)	*** (***)	*** (***)
Central	99 (0.8)	85 (7.1)!	*** (***)	*** (***)	*** (***)	76 (2.8)	25 (7.2)!	*** (***)	*** (***)	*** (***)
West	96 (1.3)	90 (4.6)!	90 (2.4)	*** (***)	*** (***)	72 (2.8)	41 (8.9)!	43 (4.9)	*** (***)	*** (***)
STATES										
Alabama	98 (0.6)	87 (2.1)	80 (5.2)	*** (***)	*** (***)	66 (1.5)	28 (2.6)	22 (4.6)	*** (***)	*** (***)
Arizona	99 (0.3)	92 (3.8)	90 (1.8)	*** (***)	91 (3.8)!	76 (1.4)	45 (4.8)	40 (2.8)	*** (***)	30 (4.0)!
Arkansas	98 (0.4)	88 (1.9)	82 (4.7)	*** (***)	*** (***)	70 (1.3)	25 (1.8)	26 (5.0)	*** (***)	*** (***)
California	99 (0.4)	85 (4.6)	85 (1.3)	98 (1.1)	*** (***)	74 (1.6)	29 (3.9)	- 36 (2.5)	71 (4.3)	*** (***)
Colorado	99 (0.3)	90 (2.6)!	92 (1.3)	*** (***)	*** (***)	79 (1.0)	35 (4.8)!	47 (2.9)	*** (***)	*** (***)
Connecticut	99 (0.3)	90 (2.1)	86 (2.8)	*** (***)	*** (***)	80 (1.2)	39 (3.8)	37 (3.5)	*** (***)	*** (***)
Delaware	98 (0.5)	90 (2.2)	87 (4.4)	*** (***)	*** (***)	70 (1.6)	41 (2.3)	42 (6.6)	*** (***)	*** (***)
Dist. Columbia	*** (***)	85 (1.1)	68 (4.0)	*** (***)	*** (***)	*** (***)	25 (1.0)	17 (2.3)	*** (***)	*** (***)
Florida	98 (0.6)	84 (2.5)	89 (1.9)	97 (2.6)	*** (***)	68 (1.9)	27 (2.5)	44 (3.1)	71 (6.0)	*** (***)
Georgia	98 (0.4)	90 (1.4)	82 (3.6)	*** (***)	*** (***)	74 (1.6)	37 (1.7)	32 (4.6)	*** (***)	*** (***)
Hawaii	95 (1.4)	*** (***)	81 (3.4)	91 (1.0)	*** (***)	63 (2.5)	*** (***)	29 (4.1)	51 (1.2)	*** (***)
Idaho	99 (0.3)	*** (***)	94 (2.2)	*** (***)	95 (3.5)	80 (1.3)	*** (***)	50 (5.4)	*** (***)	52 (9.7)
Indiana	99 (0.3)	94 (2.5)	90 (3.3)	*** (***)	*** (***)	75 (1.3)	40 (4.5)	40 (5.4)	*** (***)	*** (***)
Iowa	99 (0.2)	*** (***)	97 (2.2)	*** (***)	*** (***)	83 (1.1)	*** (***)	58 (5.6)	*** (***)	*** (***)
Kentucky	97 (0.6)	92 (2.1)	85 (7.4)	*** (***)	*** (***)	62 (1.8)	36 (3.7)	22 (4.5)	*** (***)	*** (***)
Louisiana	98 (0.4)	85 (1.6)	75 (4.7)	*** (***)	*** (***)	62 (2.2)	24 (2.0)	23 (4.5)	*** (***)	*** (***)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	98 (0.5)	89 (1.7)	83 (3.5)	99 (1.8)	*** (***)	76 (1.7)	35 (3.0)	35 (3.2)	87 (3.8)	*** (***)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	99 (0.3)	86 (2.0)	90 (4.3)	*** (***)	*** (***)	75 (1.1)	26 (2.9)	42 (5.4)	*** (***)	*** (***)
Minnesota	99 (0.3)	86 (5.2)!	88 (5.0)	97 (3.6)	*** (***)	82 (0.9)	36 (9.0)!	38 (5.7)	71 (6.7)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	99 (0.3)	85 (4.9)	96 (3.2)	*** (***)	*** (***)	83 (1.1)	33 (7.2)	57 (7.6)	*** (***)	*** (***)
New Hampshire	99 (0.4)	*** (***)	92 (4.5)	*** (***)	*** (***)	78 (1.4)	*** (***)	59 (9.3)	*** (***)	*** (***)
New Jersey	100 (0.2)	92 (2.3)	92 (2.0)	100 (0.0)	*** (***)	83 (1.3)	37 (2.7)	40 (3.5)	89 (3.8)	*** (***)
New Mexico	99 (0.5)	*** (***)	94 (1.1)	*** (***)	91 (2.2)	77 (1.6)	*** (***)	46 (2.0)	*** (***)	34 (3.0)
New York	99 (0.4)	87 (2.5)	84 (2.4)	96 (3.6)!	*** (***)	78 (1.3)	33 (4.0)	36 (4.4)	77 (5.8)!	*** (***)
North Carolina	97 (0.6)	86 (1.5)	71 (6.0)	*** (***)	83 (5.1)!	65 (1.8)	25 (1.8)	16 (4.1)	*** (***)	32 (7.9)!
North Dakota	100 (0.2)	*** (***)	92 (5.3)	*** (***)	92 (2.6)!	90 (1.0)	*** (***)	48 (6.7)	*** (***)	39 (4.4)!
Ohio	99 (0.3)	86 (3.6)	89 (4.6)	*** (***)	*** (***)	73 (1.3)	28 (3.1)	35 (6.6)	*** (***)	*** (***)
Oklahoma	99 (0.4)	90 (3.2)	92 (4.4)	*** (***)	96 (1.9)	73 (1.5)	31 (3.1)	45 (5.4)	*** (***)	65 (4.0)
Pennsylvania	99 (0.4)	91 (2.3)	77 (5.3)	*** (***)	*** (***)	77 (1.3)	35 (4.6)	27 (5.6)	*** (***)	*** (***)
Rhode Island	97 (0.6)	81 (3.7)	82 (3.2)	*** (***)	*** (***)	68 (0.9)	24 (4.4)	27 (4.0)	*** (***)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	99 (0.5)	90 (2.0)	92 (1.8)	*** (***)	*** (***)	77 (1.6)	30 (3.2)	44 (1.9)	*** (***)	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	99 (0.4)	92 (1.2)	88 (3.5)	100 (0.0)	*** (***)	73 (1.6)	39 (2.4)	39 (5.4)	93 (3.1)	*** (***)
West Virginia	97 (0.6)	89 (4.4)	79 (5.8)	*** (***)	*** (***)	59 (1.4)	29 (6.8)	29 (5.1)	*** (***)	*** (***)
Wisconsin	99 (0.2)	91 (3.4)	94 (3.7)	*** (***)	*** (***)	84 (1.4)	31 (6.4)	51 (5.4)	*** (***)	*** (***)
Wyoming	99 (0.3)	*** (***)	96 (1.5)	*** (***)	97 (1.9)	81 (1.0)	*** (***)	60 (3.6)	*** (***)	64 (5.4)
TERRITORIES										
Guam	92 (3.0)	*** (***)	60 (3.0)	83 (1.1)	*** (***)	63 (6.5)	*** (***)	12 (2.0)	34 (1.3)	*** (***)
Virgin Islands	*** (***)	78 (1.3)	61 (3.1)	*** (***)	*** (***)	*** (***)	15 (1.4)	8 (1.6)	*** (***)	*** (***)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE A.5 | Anchor Levels by Race/Ethnicity (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Percentage of Students At or Above Level 300					Percentage of Students At or Above Level 350				
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	White	Black	Hispanic	Asian / Pacific Islander	American Indian
NATION	18 (1.4)	4 (1.1)	4 (1.4)	31 (5.8)!	5 (4.4)!	1 (0.4)	0 (0.0)	0 (0.1)	1 (0.8)!	0 (0.0)!
Northeast	23 (3.1)	7 (4.9)!	*** (***)	*** (***)	*** (***)	1 (0.6)	0 (0.0)!	*** (***)	*** (***)	*** (***)
Southeast	15 (3.3)	3 (1.5)	*** (***)	*** (***)	*** (***)	0 (0.4)	0 (0.0)	*** (***)	*** (***)	*** (***)
Central	17 (1.6)	1 (1.3)!	*** (***)	*** (***)	*** (***)	0 (0.5)	0 (0.0)!	*** (***)	*** (***)	*** (***)
West	18 (3.1)	6 (1.9)!	5 (1.8)	*** (***)	*** (***)	1 (0.6)	0 (0.0)!	0 (0.2)	*** (***)	*** (***)
STATES										
Alabama	12 (0.9)	2 (0.5)	4 (1.7)	*** (***)	*** (***)	0 (0.2)	0 (0.1)	1 (1.1)	*** (***)	*** (***)
Arizona	17 (1.3)	3 (1.7)	3 (0.9)	*** (***)	0 (0.6)!	0 (0.2)	0 (0.0)	0 (0.2)	*** (***)	0 (0.0)!
Arkansas	11 (0.9)	1 (0.4)	2 (1.5)	*** (***)	*** (***)	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
California	19 (1.9)	2 (1.4)	3 (0.7)	20 (3.3)	*** (***)	1 (0.4)	0 (0.0)	0 (0.0)	1 (0.9)	*** (***)
Colorado	20 (1.2)	1 (1.2)!	4 (0.9)	*** (***)	*** (***)	0 (0.2)	0 (0.0)!	0 (0.2)	*** (***)	*** (***)
Connecticut	25 (1.2)	4 (1.5)	3 (1.3)	*** (***)	*** (***)	1 (0.2)	0 (0.2)	0 (0.2)	*** (***)	*** (***)
Delaware	17 (1.0)	4 (0.9)	6 (3.4)	*** (***)	*** (***)	1 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Dist. Columbia	*** (***)	1 (0.3)	2 (1.1)	*** (***)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Florida	15 (1.4)	2 (0.7)	7 (1.4)	28 (7.1)	*** (***)	0 (0.1)	0 (0.0)	0 (0.3)	0 (1.8)	*** (***)
Georgia	19 (1.6)	3 (0.7)	3 (1.6)	*** (***)	*** (***)	1 (0.6)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Hawaii	16 (2.7)	*** (***)	3 (1.3)	12 (0.9)	*** (***)	1 (0.5)	*** (***)	0 (0.4)	1 (0.2)	*** (***)
Idaho	19 (1.2)	*** (***)	4 (1.7)	*** (***)	5 (4.5)	0 (0.2)	*** (***)	0 (0.0)	*** (***)	0 (0.3)
Indiana	18 (1.1)	2 (1.0)	7 (2.8)	*** (***)	*** (***)	1 (0.2)	0 (0.2)	0 (1.1)	*** (***)	*** (***)
Iowa	25 (1.5)	*** (***)	9 (3.0)	*** (***)	*** (***)	1 (0.2)	*** (***)	0 (0.9)	*** (***)	*** (***)
Kentucky	11 (0.9)	2 (0.9)	1 (0.8)	*** (***)	*** (***)	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Louisiana	8 (1.0)	1 (0.3)	2 (1.5)	*** (***)	*** (***)	0 (0.2)	0 (0.1)	0 (0.0)	*** (***)	*** (***)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	21 (1.5)	3 (0.9)	6 (1.8)	45 (6.6)	*** (***)	1 (0.3)	0 (0.1)	0 (0.4)	2 (1.5)	*** (***)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	18 (1.2)	1 (0.6)	4 (1.9)	*** (***)	*** (***)	1 (0.3)	0 (0.0)	0 (0.8)	*** (***)	*** (***)
Minnesota	23 (1.3)	7 (3.1)!	5 (2.2)	19 (5.4)	*** (***)	1 (0.3)	0 (0.0)!	0 (0.0)	5 (4.4)	*** (***)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	26 (1.3)	2 (2.4)	3 (2.6)	*** (***)	*** (***)	1 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
New Hampshire	20 (1.2)	*** (***)	8 (4.1)	*** (***)	*** (***)	1 (0.3)	*** (***)	0 (0.0)	*** (***)	*** (***)
New Jersey	25 (1.5)	4 (1.6)	5 (1.4)	51 (6.2)	*** (***)	1 (0.3)	0 (0.0)	0 (0.9)	3 (1.6)	*** (***)
New Mexico	19 (2.1)	*** (***)	4 (0.7)	*** (***)	2 (1.0)	0 (0.3)	*** (***)	0 (0.2)	*** (***)	0 (0.0)
New York	20 (1.3)	4 (1.0)	4 (1.2)	31 (5.4)!	*** (***)	1 (0.4)	0 (0.0)	0 (0.3)	3 (2.6)!	*** (***)
North Carolina	12 (1.0)	2 (0.7)	1 (1.0)	*** (***)	2 (2.1)!	0 (0.1)	0 (0.1)	0 (0.0)	*** (***)	0 (0.0)!
North Dakota	28 (1.7)	*** (***)	7 (4.5)	*** (***)	2 (2.2)!	1 (0.5)	*** (***)	0 (0.0)	*** (***)	0 (0.0)!
Ohio	16 (1.0)	2 (1.1)	3 (2.3)	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Oklahoma	15 (1.3)	0 (0.6)	4 (1.9)	*** (***)	5 (1.9)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Pennsylvania	19 (1.3)	3 (1.3)	3 (2.0)	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Rhode Island	16 (0.9)	1 (1.0)	1 (0.8)	*** (***)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	20 (1.8)	2 (1.1)	4 (0.9)	*** (***)	*** (***)	1 (0.4)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	20 (1.9)	4 (1.0)	8 (3.7)	40 (5.7)	*** (***)	1 (0.5)	0 (0.2)	0 (0.0)	7 (3.1)	*** (***)
West Virginia	9 (0.8)	2 (3.3)	3 (2.4)	*** (***)	*** (***)	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Wisconsin	25 (1.5)	3 (1.7)	6 (2.4)	*** (***)	*** (***)	1 (0.2)	0 (0.0)	0 (0.0)	*** (***)	*** (***)
Wyoming	19 (1.1)	*** (***)	6 (2.6)	*** (***)	5 (2.4)	0 (0.1)	*** (***)	0 (0.0)	*** (***)	0 (0.0)
TERRITORIES										
Guam	10 (2.4)	*** (***)	1 (0.5)	4 (0.5)	*** (***)	0 (0.0)	*** (***)	0 (0.0)	0 (0.1)	*** (***)
Virgin Islands	*** (***)	1 (0.4)	0 (0.2)	*** (***)	*** (***)	*** (***)	0 (0.0)	0 (0.0)	*** (***)	*** (***)

(xxx) Did not participate in the 1990 Trial State Assessment.

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Anchor-Level Results by Gender

TABLE A.6 Average Mathematics Proficiency and Anchor Levels by Gender, Grades 4, 8, and 12

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grade 4							
Male	**1992**	50 (0.6)	220 (0.8)>	73 (1.0)>	18 (1.0)>	0 (0.2)	0 (0.0)
	1990	52 (1.0)	214 (1.2)	68 (1.8)	13 (1.4)	0 (0.2)	0 (0.0)
Female	**1992**	50 (0.6)	217 (1.0)>	72 (1.2)	15 (1.1)	0 (0.2)	0 (0.0)
	1990	48 (1.0)	212 (1.1)	67 (1.9)	12 (1.2)	0 (0.0)	0 (0.0)
Grade 8							
Male	**1992**	51 (0.6)	267 (1.1)>	96 (0.6)	68 (1.2)	20 (1.2)	1 (0.2)
	1990	51 (1.0)	263 (1.6)	95 (0.9)	65 (1.9)	16 (1.4)	1 (0.4)
Female	**1992**	49 (0.6)	268 (1.0)>	97 (0.4)	69 (1.2)	19 (1.1)>	1 (0.2)
	1990	49 (1.0)	262 (1.3)	96 (0.8)	65 (1.5)	13 (1.0)	0 (0.1)
Grade 12							
Male	**1992**	49 (0.8)	301 (1.1)>	100 (0.1)	92 (0.7)	52 (1.5)	8 (0.6)
	1990	48 (1.0)	297 (1.4)	100 (0.2)	89 (1.2)	47 (1.8)	7 (1.2)
Female	**1992**	51 (0.8)	297 (1.0)>	100 (0.1)	91 (0.7)>	48 (1.3)	5 (0.7)
	1990	52 (1.0)	292 (1.3)	99 (0.3)	87 (1.3)	43 (1.9)	3 (0.6)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

TABLE A.7 | Anchor Levels by Gender

PUBLIC SCHOOLS	Grade 4 - 1992							
	Percentage of Students At or Above Level 200		Percentage of Students At or Above Level 250		Percentage of Students At or Above Level 300		Percentage of Students At or Above Level 350	
	Male	Female	Male	Female	Male	Female	Male	Female
NATION	72 (1.2)	70 (1.4)	18 (1.0)	15 (1.2)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Northeast	77 (2.5)	74 (3.6)	25 (3.1)	18 (3.2)	1 (0.5)	0 (0.5)	0 (0.0)	0 (0.0)
Southeast	62 (2.4)	61 (3.5)	10 (1.2)	10 (2.4)	0 (0.4)	0 (0.2)	0 (0.0)	0 (0.0)
Central	80 (3.3)	75 (3.5)	21 (2.4)	16 (2.4)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
West	70 (2.0)	71 (2.5)	16 (2.3)	15 (2.4)	0 (0.4)	0 (0.3)	0 (0.0)	0 (0.0)
STATES								
Alabama	58 (2.6)	58 (2.3)	9 (1.3)	9 (1.4)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Arizona	67 (1.8)	68 (1.8)	13 (1.1)	12 (1.2)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Arkansas	63 (1.5)	62 (2.3)	9 (0.8)	8 (1.2)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
California	60 (2.3)	60 (2.1)	12 (1.5)	11 (1.1)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Colorado	75 (1.7)	74 (1.6)	18 (1.3)	16 (1.4)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Connecticut	80 (1.6)	79 (1.5)	25 (1.6)	22 (1.7)	1 (0.4)	0 (0.3)	0 (0.0)	0 (0.0)
Delaware	70 (1.7)	68 (1.7)	17 (1.6)	14 (1.7)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Dist. Columbia	37 (2.3)	36 (1.7)	5 (0.7)	5 (0.5)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Florida	68 (2.3)	65 (2.0)	13 (1.5)	11 (1.4)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Georgia	66 (2.1)	68 (2.2)	15 (1.4)	13 (1.2)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Hawaii	63 (2.2)	68 (1.6)	15 (1.2)	13 (1.1)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Idaho	79 (1.7)	75 (2.0)	16 (1.1)	13 (1.3)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Indiana	77 (1.9)	73 (1.8)	15 (1.5)	14 (1.1)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Iowa	84 (1.5)	84 (1.5)	25 (1.4)	23 (1.3)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Kentucky	66 (1.6)	68 (2.0)	13 (1.4)	10 (1.1)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Louisiana	54 (2.3)	54 (2.5)	8 (1.0)	6 (0.9)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Maine	86 (1.4)	86 (1.3)	26 (1.7)	25 (1.9)	1 (0.3)	0 (0.2)	0 (0.1)	0 (0.0)
Maryland	69 (1.5)	66 (2.0)	19 (1.5)	16 (1.5)	1 (0.3)	0 (0.1)	0 (0.0)	0 (0.0)
Massachusetts	81 (1.3)	78 (1.7)	24 (1.7)	20 (1.5)	1 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
Michigan	75 (2.2)	71 (2.2)	20 (2.1)	14 (1.7)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Minnesota	81 (1.5)	82 (1.4)	26 (1.3)	23 (1.4)	0 (0.2)	0 (0.3)	0 (0.0)	0 (0.0)
Mississippi	49 (1.8)	52 (2.1)	6 (0.8)	6 (0.7)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Missouri	75 (1.5)	77 (2.3)	18 (1.4)	17 (1.7)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Nebraska	79 (1.6)	77 (1.8)	22 (1.8)	18 (1.9)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
New Hampshire	84 (1.5)	85 (1.3)	25 (1.9)	22 (1.9)	1 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
New Jersey	81 (2.2)	79 (1.7)	24 (1.7)	22 (2.2)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
New Mexico	65 (2.6)	65 (1.9)	10 (1.1)	11 (2.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
New York	74 (1.9)	68 (1.8)	19 (1.7)	12 (1.3)	0 (0.3)	0 (0.1)	0 (0.0)	0 (0.0)
North Carolina	65 (1.8)	65 (1.9)	12 (1.1)	11 (1.1)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
North Dakota	86 (1.2)	84 (1.4)	23 (1.7)	19 (1.6)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Ohio	73 (1.7)	70 (1.8)	17 (1.2)	13 (1.6)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Oklahoma	77 (1.5)	75 (2.0)	13 (1.6)	12 (1.2)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Pennsylvania	78 (1.8)	76 (2.0)	22 (1.8)	19 (1.4)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Rhode Island	69 (2.2)	68 (2.1)	13 (1.5)	11 (1.3)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
South Carolina	63 (2.0)	63 (1.5)	13 (1.5)	11 (1.1)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Tennessee	62 (2.0)	63 (2.3)	9 (1.3)	9 (1.1)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Texas	71 (1.9)	71 (2.2)	16 (1.7)	12 (1.3)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Utah	78 (1.6)	79 (1.6)	18 (1.5)	17 (1.4)	0 (0.3)	0 (0.1)	0 (0.0)	0 (0.0)
Virginia	74 (1.6)	72 (1.9)	19 (2.0)	16 (1.5)	1 (0.4)	0 (0.3)	0 (0.0)	0 (0.0)
West Virginia	69 (2.0)	67 (1.9)	13 (1.5)	10 (0.9)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Wisconsin	84 (1.3)	82 (1.7)	25 (1.7)	21 (1.8)	1 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
Wyoming	83 (1.6)	80 (1.7)	19 (1.5)	15 (1.4)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
TERRITORY								
Guam	38 (2.4)	43 (1.5)	4 (0.6)	5 (0.9)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent.

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TABLE A.7 | Anchor Levels by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Percentage of Students At or Above Level 200		Percentage of Students At or Above Level 250		Percentage of Students At or Above Level 300		Percentage of Students At or Above Level 350	
	Male	Female	Male	Female	Male	Female	Male	Female
NATION	96 (0.6)	97 (0.5)	66 (1.3)	67 (1.3)	19 (1.2)	18 (1.3)	1 (0.3)	1 (0.2)
Northeast	96 (1.1)	96 (1.0)	65 (4.0)	66 (3.9)	21 (2.5)	21 (3.0)	1 (0.6)	1 (0.7)
Southeast	95 (1.6)	96 (1.2)	59 (2.2)	58 (1.9)	12 (1.3)	12 (1.6)	0 (0.2)	0 (0.2)
Central	98 (1.0)	98 (0.6)	74 (2.8)	76 (3.1)	22 (3.1)	22 (3.3)	1 (0.5)	1 (0.3)
West	96 (0.8)	97 (0.8)	66 (2.8)	69 (2.6)	19 (2.2)	20 (2.3)	1 (0.5)	1 (0.4)
STATES								
Alabama	93 (1.4)	92 (1.4)	52 (2.2)	50 (2.4)	11 (1.3)	8 (1.1)	0 (0.1)	0 (0.1)
Arizona	97 (0.6)	97 (0.5)	67 (2.0)	68 (2.1) >	15 (1.4)	13 (1.3)	0 (0.2)	0 (0.2)
Arkansas	94 (0.9)	94 (0.9)	58 (2.0)	57 (1.9)	10 (1.3)	9 (0.9)	0 (0.2)	0 (0.1)
California	92 (1.1)	94 (0.9)	60 (2.2)	62 (2.4)	15 (1.4)	16 (1.7)	1 (0.3)	0 (0.3)
Colorado	98 (0.5)	98 (0.5)	77 (1.6)	73 (1.5)	22 (1.3)	19 (1.4)	0 (0.2)	0 (0.3)
Connecticut	97 (0.6)	97 (0.9)	74 (2.0)	74 (1.4)	26 (1.3)	23 (1.2)	1 (0.3)	0 (0.2)
Delaware	96 (1.0)	95 (0.9)	65 (1.8)	63 (1.6)	15 (1.3)	14 (1.6)	1 (0.3)	1 (0.3)
Dist. Columbia	81 (1.9)	84 (1.4)	31 (1.8)	33 (2.0)	4 (0.9)	5 (1.1)	1 (0.4)	0 (0.0)
Florida	95 (1.0)	94 (1.1)	61 (1.9)	61 (2.3)	14 (1.5)	14 (1.1)	0 (0.2)	0 (0.2)
Georgia	96 (0.8)	95 (1.0)	61 (1.8)	59 (1.5)	13 (1.4)	10 (1.1)	0 (0.3)	0 (0.3)
Hawaii	93 (0.9) >	94 (1.0)	54 (1.6) >	60 (1.8)	11 (0.9)	15 (1.0)	0 (0.2)	1 (0.3)
Idaho	99 (0.4)	99 (0.3)	81 (1.4)	79 (1.4)	23 (1.8)	18 (1.2)	0 (0.3)	0 (0.2)
Indiana	98 (0.6)	98 (0.6)	74 (1.6)	70 (1.8)	20 (1.7)	17 (1.5)	1 (0.4)	0 (0.3)
Iowa	100 (0.2)	99 (0.3)	86 (1.3)	86 (1.4) >	31 (1.5)	28 (1.8) >	1 (0.4)	1 (0.3)
Kentucky	96 (0.7)	96 (0.8)	65 (1.7)	63 (1.7)	14 (1.6)	12 (1.2)	1 (0.3)	0 (0.2)
Louisiana	94 (1.0)	91 (1.2)	53 (2.5)	47 (2.3)	7 (1.1)	7 (1.2)	0 (0.1)	0 (0.1)
Maine	99 (0.6)	99 (0.3)	82 (1.6)	84 (1.4)	25 (1.7)	23 (1.9)	1 (0.3)	1 (0.4)
Maryland	95 (0.7)	95 (1.1)	65 (1.9)	63 (1.9)	20 (1.6)	18 (1.5)	1 (0.6)	1 (0.3)
Massachusetts	98 (0.6)	98 (0.6)	73 (1.8)	74 (1.7)	24 (1.8)	20 (1.6)	1 (0.4)	0 (0.2)
Michigan	97 (0.7)	96 (0.8)	71 (1.6)	68 (1.9)	20 (1.9)	16 (1.5)	0 (0.3)	0 (0.2)
Minnesota	99 (0.3)	99 (0.3)	83 (1.4)	84 (1.4)	30 (1.8)	29 (1.6) »	1 (0.4)	1 (0.5)
Mississippi	90 (1.2)	90 (1.0)	47 (1.8)	43 (1.9)	7 (1.0)	5 (0.9)	0 (0.0)	0 (0.1)
Missouri	98 (0.6)	98 (0.5)	74 (1.7)	73 (1.9)	20 (1.8)	17 (1.3)	1 (0.2)	0 (0.3)
Nebraska	99 (0.4)	98 (0.5)	81 (1.5)	81 (1.4)	26 (1.9)	23 (1.9)	1 (0.4)	0 (0.4)
New Hampshire	99 (0.4)	99 (0.4)	83 (1.4)	82 (1.3)	24 (1.7)	23 (1.5)	1 (0.3)	1 (0.3)
New Jersey	98 (0.7)	96 (0.7)	76 (1.9)	70 (2.0)	25 (1.8)	20 (1.7)	1 (0.5)	0 (0.2)
New Mexico	96 (0.9)	97 (0.5)	63 (2.2)	59 (1.5)	12 (1.2)	8 (0.8)	0 (0.2)	0 (0.1)
New York	94 (1.4)	94 (1.4)	69 (2.5)	66 (2.7)	20 (1.6)	19 (1.3) >	1 (0.3)	1 (0.3)
North Carolina	95 (0.7)	94 (1.0)	60 (1.8) >	59 (1.6) >	13 (1.2) >	10 (1.1)	0 (0.2)	0 (0.1)
North Dakota	100 (0.3)	100 (0.1)	88 (1.2)	86 (1.6)	29 (2.2)	20 (1.6)	1 (0.2)	0 (0.3)
Ohio	97 (0.5)	97 (0.8)	72 (2.2)	69 (1.8)	18 (1.8)	16 (1.9)	1 (0.3)	0 (0.2)
Oklahoma	97 (0.8)	98 (0.5)	73 (1.9)	71 (2.1)	17 (1.4)	14 (1.8)	0 (0.3)	0 (0.1)
Pennsylvania	98 (0.7)	97 (0.7)	75 (1.8)	71 (2.1)	23 (1.6)	17 (1.8)	0 (0.3)	0 (0.2)
Rhode Island	97 (0.7)	96 (0.6)	68 (1.6) >	68 (1.4) »	16 (1.4)	14 (1.1)	0 (0.3)	0 (0.3)
South Carolina	96 (0.8)	97 (0.7)	61 (1.8)	59 (1.4)	15 (1.4)	13 (1.3)	0 (0.2)	1 (0.2)
Tennessee	95 (0.9)	96 (0.9)	62 (2.5)	57 (2.0)	13 (1.3)	9 (1.1)	0 (0.2)	0 (0.1)
Texas	96 (0.6)	95 (0.7)	66 (1.7)	62 (2.0)	19 (1.3) >	15 (1.6)	1 (0.4)	1 (0.4)
Utah	99 (0.4)	98 (0.3)	79 (1.5)	77 (1.5)	22 (1.3)	20 (1.3)	1 (0.3)	0 (0.1)
Virginia	96 (0.5)	98 (0.4)	68 (1.9)	68 (1.7)	19 (1.6)	17 (1.1)	1 (0.3)	1 (0.3)
West Virginia	97 (0.7)	97 (0.8)	61 (1.8)	59 (2.0)	10 (1.3)	8 (0.9)	0 (0.0)	0 (0.0)
Wisconsin	98 (0.6)	99 (0.3)	81 (2.1)	80 (1.9)	26 (1.7)	25 (1.6)	1 (0.3)	1 (0.4)
Wyoming	99 (0.4)	99 (0.3)	79 (1.6)	80 (1.6)	20 (1.4)	19 (1.6)	0 (0.2)	0 (0.2)
TERRITORIES								
Guam	77 (1.6)	84 (1.8)	33 (1.8)	36 (1.8)	6 (1.1)	5 (1.0)	0 (0.1)	0 (0.2)
Virgin Islands	76 (2.8)	77 (1.7)	17 (2.0)	18 (1.7) >	1 (0.4)	0 (0.2)	0 (0.0)	0 (0.0)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE A.7 | Anchor Levels by Gender (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Percentage of Students At or Above Level 200		Percentage of Students At or Above Level 250		Percentage of Students At or Above Level 300		Percentage of Students At or Above Level 350	
	Male	Female	Male	Female	Male	Female	Male	Female
NATION	95 (0.9)	95 (0.8)	64 (2.0)	63 (1.6)	16 (1.4)	13 (1.1)	1 (0.4)	0 (0.1)
Northeast	97 (1.1)	97 (1.4)	71 (5.3)	72 (3.6)	23 (4.5)	18 (3.4)	1 (0.7)	0 (0.3)
Southeast	92 (2.5)	94 (1.9)	53 (3.7)	56 (3.3)	12 (2.2)	10 (2.7)	0 (0.6)	0 (0.3)
Central	96 (1.4)	97 (1.5)	68 (3.6)	68 (3.0)	16 (3.0)	12 (2.1)	1 (0.8)	0 (0.3)
West	95 (1.7)	94 (1.8)	64 (3.8)	60 (3.0)	15 (2.7)	13 (1.9)	1 (0.6)	0 (0.2)
STATES								
Alabama	94 (0.7)	94 (1.1)	54 (2.1)	53 (1.8)	9 (1.1)	8 (0.8)	0 (0.2)	0 (0.2)
Arizona	96 (0.8)	95 (1.0)	65 (2.1)	59 (2.0)	15 (1.3)	10 (1.0)	1 (0.3)	0 (0.2)
Arkansas	95 (0.8)	96 (0.9)	59 (1.7)	58 (1.9)	10 (0.9)	7 (0.9)	0 (0.2)	0 (0.1)
California	94 (0.9)	92 (1.1)	58 (2.0)	56 (1.5)	13 (1.5)	11 (1.2)	1 (0.2)	0 (0.3)
Colorado	98 (0.6)	96 (0.7)	72 (1.5)	69 (1.6)	17 (1.2)	15 (1.4)	1 (0.3)	0 (0.2)
Connecticut	97 (0.5)	97 (0.8)	73 (1.7)	70 (1.8)	23 (1.5)	19 (1.4)	1 (0.3)	1 (0.2)
Delaware	94 (1.0)	96 (0.8)	60 (2.0)	62 (1.9)	15 (1.2)	12 (1.5)	1 (0.5)	0 (0.3)
Dist. Columbia	82 (1.4)	84 (1.4)	25 (1.6)	28 (1.5)	2 (0.6)	3 (0.6)	0 (0.4)	0 (0.2)
Florida	93 (1.0)	93 (0.9)	56 (1.9)	55 (2.0)	13 (1.1)	10 (1.1)	0 (0.1)	0 (0.2)
Georgia	94 (0.7)	95 (1.0)	60 (1.8)	59 (1.9)	14 (1.7)	12 (1.2)	1 (0.5)	0 (0.3)
Hawaii	88 (1.0)	92 (0.9)	47 (1.7)	55 (1.7)	11 (1.1)	12 (1.0)	1 (0.2)	1 (0.2)
Idaho	99 (0.5)	99 (0.5)	77 (1.3)	76 (1.5)	19 (1.6)	15 (1.5)	0 (0.1)	0 (0.3)
Indiana	99 (0.4)	97 (0.7)	72 (1.6)	68 (2.1)	18 (1.5)	13 (1.5)	1 (0.4)	0 (0.2)
Iowa	100 (0.3)	99 (0.5)	82 (1.3)	80 (1.6)	27 (1.6)	21 (1.7)	1 (0.3)	0 (0.2)
Kentucky	97 (0.5)	95 (0.9)	59 (2.0)	57 (2.1)	11 (1.0)	9 (0.8)	0 (0.3)	0 (0.0)
Louisiana	92 (0.9)	92 (1.0)	47 (2.0)	45 (2.2)	6 (0.9)	4 (0.6)	0 (0.2)	0 (0.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	94 (0.9)	95 (0.9)	61 (1.7)	61 (2.2)	17 (1.3)	15 (1.5)	1 (0.4)	0 (0.2)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	97 (0.6)	97 (0.5)	67 (1.6)	66 (1.8)	16 (1.4)	14 (1.4)	1 (0.3)	1 (0.3)
Minnesota	98 (0.5)	98 (0.5)	78 (1.5)	80 (1.3)	24 (1.6)	21 (1.4)	2 (0.6)	0 (0.2)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	98 (0.6)	98 (0.5)	79 (1.5)	79 (1.7)	25 (1.8)	22 (1.6)	1 (0.4)	0 (0.3)
New Hampshire	98 (0.6)	99 (0.4)	77 (1.6)	78 (1.8)	19 (1.6)	20 (1.8)	1 (0.3)	0 (0.4)
New Jersey	98 (0.7)	97 (0.7)	72 (1.9)	69 (1.6)	22 (1.6)	19 (1.3)	1 (0.4)	1 (0.2)
New Mexico	97 (0.6)	95 (0.8)	61 (1.5)	54 (1.5)	12 (1.3)	8 (1.1)	1 (0.3)	0 (0.1)
New York	95 (1.1)	93 (1.4)	63 (2.2)	62 (2.4)	16 (1.2)	13 (1.0)	1 (0.4)	1 (0.4)
North Carolina	92 (1.2)	92 (0.7)	50 (1.9)	51 (1.7)	8 (0.8)	8 (0.8)	0 (0.1)	0 (0.1)
North Dakota	99 (0.4)	99 (0.5)	88 (1.7)	84 (1.9)	29 (2.3)	23 (2.2)	2 (0.7)	0 (0.4)
Ohio	97 (0.7)	97 (0.6)	69 (1.6)	63 (1.9)	16 (1.3)	12 (1.2)	0 (0.2)	0 (0.1)
Oklahoma	98 (0.7)	97 (0.8)	69 (1.9)	64 (1.9)	15 (1.5)	11 (1.3)	0 (0.3)	0 (0.1)
Pennsylvania	97 (0.7)	96 (0.8)	71 (2.1)	67 (2.7)	19 (1.8)	13 (1.3)	1 (0.3)	0 (0.2)
Rhode Island	96 (0.7)	94 (0.8)	62 (1.3)	60 (1.3)	15 (1.2)	12 (1.1)	0 (0.3)	0 (0.1)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	95 (0.9)	95 (1.0)	61 (2.2)	56 (1.9)	14 (1.3)	11 (1.3)	1 (0.4)	0 (0.2)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	97 (0.6)	97 (0.6)	65 (1.9)	63 (1.7)	19 (2.1)	15 (1.4)	2 (0.6)	1 (0.4)
West Virginia	96 (0.8)	96 (0.8)	57 (2.1)	57 (1.7)	9 (1.1)	8 (1.0)	0 (0.1)	0 (0.2)
Wisconsin	99 (0.5)	98 (0.6)	78 (1.6)	77 (1.9)	24 (1.5)	21 (1.9)	1 (0.3)	1 (0.3)
Wyoming	99 (0.3)	99 (0.3)	80 (1.2)	76 (1.5)	20 (1.3)	15 (1.0)	0 (0.2)	0 (0.1)
TERRITORIES								
Guam	79 (2.0)	79 (1.5)	32 (1.9)	31 (2.2)	4 (0.7)	3 (0.6)	0 (0.2)	0 (0.1)
Virgin Islands	76 (1.7)	72 (2.3)	15 (1.8)	12 (1.0)	1 (0.6)	0 (0.2)	0 (0.1)	0 (0.0)

(xxx) Did not participate in the 1990 Trial State Assessment.

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Anchor-Level Results by Type of Community

TABLE A.8 Average Mathematics Proficiency and Anchor Levels by Type of Community, Grades 4, 8, and 12

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grade 4							
Advantaged Urban	**1992**	12 (1.8)	237 (2.1)	90 (1.9)	34 (2.9)	2 (0.6)	0 (0.0)
	1990	11 (2.5)	231 (3.0)!	86 (2.9)	26 (4.9)	0 (0.4)	0 (0.0)
Disadvantaged Urban	**1992**	9 (1.4)	193 (2.8)	42 (4.0)	3 (1.0)	0 (0.0)	0 (0.0)
	1990	10 (1.5)	195 (3.0)	45 (4.4)	3 (1.4)	0 (0.0)	0 (0.0)
Extreme Rural	**1992**	12 (2.2)	216 (3.6)	71 (5.0)	14 (2.6)	0 (0.0)	0 (0.0)
	1990	10 (1.9)	214 (4.9)	70 (6.5)	11 (3.0)	0 (0.3)	0 (0.0)
Other	**1992**	66 (3.0)	219 (0.9)>	74 (1.1)>	16 (1.0)>	0 (0.1)	0 (0.0)
	1990	70 (3.6)	213 (1.1)	67 (1.7)	11 (1.1)	0 (0.1)	0 (0.0)
Grade 8							
Advantaged Urban	**1992**	10 (1.8)	288 (3.6)	99 (0.6)	86 (3.0)	40 (4.2)	2 (0.8)
	1990	11 (2.9)	280 (3.2)!	99 (1.0)	84 (3.6)	27 (4.1)	2 (1.2)
Disadvantaged Urban	**1992**	9 (1.3)	238 (2.6)<	87 (2.7)	34 (3.1)	5 (1.2)	0 (0.1)
	1990	10 (2.5)	249 (3.8)!	92 (2.1)	49 (5.0)	9 (2.7)	0 (0.1)
Extreme Rural	**1992**	9 (2.6)	267 (4.6)!	98 (1.0)	71 (5.7)	16 (3.3)	0 (0.4)
	1990	9 (2.8)	257 (4.4)!	95 (2.7)	58 (6.7)	9 (2.5)	0 (0.0)
Other	**1992**	72 (3.1)	268 (1.1)>	97 (0.3)	69 (1.4)	19 (1.0)>	1 (0.2)
	1990	70 (3.9)	262 (1.7)	95 (1.0)	65 (1.9)	14 (1.1)	0 (0.2)
Grade 12							
Advantaged Urban	**1992**	12 (2.1)	316 (2.6)	100 (0.3)	96 (0.9)	71 (3.5)	15 (2.3)
	1990	9 (2.8)	306 (6.2)!	100 (0.4)	92 (2.4)	60 (7.8)	11 (3.1)
Disadvantaged Urban	**1992**	10 (1.4)	279 (2.4)	100 (0.3)	80 (2.7)	28 (3.0)	2 (0.6)
	1990	10 (2.7)	276 (6.0)!	98 (1.1)	79 (5.1)	24 (6.6)	2 (1.6)
Extreme Rural	**1992**	12 (1.6)	293 (1.9)	100 (0.2)	90 (1.5)	41 (3.9)	3 (0.7)
	1990	10 (3.2)	293 (3.3)!	100 (0.4)	88 (1.9)	44 (4.9)	4 (1.8)
Other	**1992**	66 (3.0)	300 (0.9)>	100 (0.1)	92 (0.7)>	51 (1.2)	6 (0.5)
	1990	71 (4.4)	295 (1.3)	100 (0.2)	89 (1.1)	46 (1.7)	5 (0.9)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. ! Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

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TABLE A.9 | Anchor Levels by Type of Community

PUBLIC SCHOOLS	Grade 4 - 1992							
	Percentage of Students At or Above Level 200				Percentage of Students At or Above Level 250			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	90 (2.7)!	42 (4.1)	71 (5.1)	73 (1.2)	39 (4.2)!	3 (1.0)	14 (2.5)	16 (1.0)
Northeast	92 (2.3)!	58 (6.0)!	*** (***)	74 (3.4)	42 (5.8)!	6 (1.9)!	*** (***)	19 (3.0)
Southeast	90 (8.2)!	38 (6.0)!	53 (8.0)!	67 (2.8)	37 (7.2)!	2 (1.0)!	7 (3.9)!	10 (1.7)
Central	84 (14.1)!	36 (5.9)!	89 (6.0)!	80 (2.2)	40 (13.6)!	1 (0.4)!	20 (5.3)!	19 (2.0)
West	90 (4.8)!	24 (6.2)!	71 (5.0)!	71 (2.4)	33 (11.1)!	0 (0.5)!	11 (3.5)!	15 (2.1)
STATES								
Alabama	85 (4.1)!	39 (4.2)!	54 (5.1)!	60 (2.9)	28 (6.8)!	2 (0.8)!	6 (1.6)!	9 (1.4)
Arizona	86 (3.7)!	64 (7.0)!	56 (8.1)!	65 (2.5)	24 (3.8)!	7 (2.3)!	8 (2.3)!	11 (1.4)
Arkansas	*** (***)	43 (4.6)!	63 (3.0)	64 (2.2)	*** (***)	2 (1.8)!	8 (1.5)	10 (1.1)
California	87 (2.3)!	38 (4.3)	*** (***)	64 (2.6)	27 (3.7)!	3 (0.9)	*** (***)	12 (1.2)
Colorado	86 (1.5)	54 (3.5)!	74 (2.8)!	75 (2.1)	29 (2.3)	7 (2.3)!	15 (3.0)!	15 (1.3)
Connecticut	93 (2.4)!	43 (5.1)!	*** (***)	86 (1.2)	33 (2.9)!	4 (2.1)!	*** (***)	26 (2.0)
Delaware	68 (3.5)	60 (8.0)	68 (2.5)	72 (1.6)	19 (4.2)	7 (2.8)	10 (1.0)	19 (1.3)
Dist. Columbia	61 (2.8)	29 (2.2)	*** (***)	41 (2.9)	16 (1.4)	1 (0.3)	*** (***)	8 (0.8)
Florida	85 (3.6)!	44 (3.4)	62 (7.3)!	70 (2.1)	27 (4.0)!	3 (1.0)	6 (5.1)!	12 (1.2)
Georgia	94 (2.0)!	45 (5.2)!	67 (4.3)!	67 (2.6)	35 (5.3)!	4 (1.3)!	13 (2.7)!	13 (1.5)
Hawaii	79 (3.5)!	42 (3.4)!	61 (4.2)!	66 (2.0)	28 (3.3)!	4 (2.6)!	9 (2.7)!	14 (1.2)
Idaho	91 (2.1)!	*** (***)	75 (2.4)	76 (2.4)	26 (3.5)!	*** (***)	14 (1.7)	14 (1.1)
Indiana	90 (2.7)!	47 (5.6)!	79 (2.1)!	76 (1.8)	29 (3.4)!	3 (1.2)!	14 (2.4)!	14 (1.3)
Iowa	93 (2.7)!	74 (5.9)!	84 (1.8)	85 (2.1)	37 (4.7)!	15 (2.6)!	24 (2.0)	24 (1.9)
Kentucky	85 (6.8)!	59 (5.7)!	69 (2.2)	66 (2.1)	31 (3.6)!	8 (2.9)!	11 (1.5)	10 (1.2)
Louisiana	81 (4.5)!	32 (4.9)	56 (7.0)!	57 (2.8)	20 (3.1)!	2 (0.9)	6 (2.2)!	7 (0.9)
Maine	*** (***)	*** (***)	86 (2.8)!	87 (1.4)	*** (***)	*** (***)	26 (3.7)!	26 (1.6)
Maryland	82 (3.9)	39 (7.3)!	77 (6.5)!	68 (2.1)	32 (4.0)	3 (1.5)!	18 (4.0)!	16 (1.7)
Massachusetts	94 (1.9)!	50 (4.6)	*** (***)	85 (1.7)	38 (5.6)!	6 (2.0)	*** (***)	23 (1.8)
Michigan	92 (2.0)!	38 (6.1)!	78 (4.2)!	80 (2.1)	38 (5.8)!	4 (1.4)!	12 (3.2)!	19 (2.0)
Minnesota	89 (4.3)!	*** (***)	81 (2.7)	80 (1.9)	36 (4.5)!	*** (***)	21 (1.8)	23 (1.9)
Mississippi	*** (***)	41 (5.3)!	57 (6.0)	49 (1.8)	*** (***)	0 (0.4)!	7 (2.7)	6 (0.6)
Missouri	90 (2.5)!	42 (6.3)!	78 (2.7)	80 (1.8)	37 (6.9)!	3 (2.0)!	16 (1.8)	17 (1.8)
Nebraska	91 (2.2)!	56 (3.0)!	79 (3.3)	78 (2.0)	36 (3.1)!	9 (4.2)!	19 (2.9)	20 (2.3)
New Hampshire	88 (3.0)!	*** (***)	88 (3.6)!	84 (1.4)	30 (3.8)!	*** (***)	27 (5.8)!	23 (1.9)
New Jersey	94 (1.3)	44 (7.3)!	*** (***)	85 (1.9)	40 (3.9)	4 (2.2)!	*** (***)	22 (1.9)
New Mexico	88 (6.2)!	46 (5.5)!	59 (16.4)!	64 (2.4)	25 (4.8)!	5 (1.5)!	2 (3.1)!	9 (1.5)
New York	85 (3.6)!	49 (4.0)	*** (***)	78 (2.8)	26 (3.0)!	6 (1.8)	*** (***)	17 (2.6)
North Carolina	87 (1.8)!	54 (4.4)!	62 (4.6)!	63 (1.8)	30 (3.3)!	6 (2.5)!	9 (1.6)!	11 (1.0)
North Dakota	91 (2.9)!	*** (***)	84 (1.5)	83 (1.5)	32 (3.5)!	*** (***)	19 (2.0)	19 (1.7)
Ohio	90 (3.0)!	45 (4.5)	74 (3.6)!	76 (2.2)	34 (3.4)!	4 (0.9)	10 (1.9)!	17 (1.9)
Oklahoma	87 (3.8)!	69 (5.9)!	78 (2.8)	76 (1.9)	22 (5.5)!	8 (3.3)!	13 (2.4)	15 (1.6)
Pennsylvania	89 (3.2)	43 (4.5)	87 (1.4)!	82 (1.7)	35 (5.6)!	4 (1.4)	23 (2.6)	21 (1.6)
Rhode Island	89 (2.8)!	40 (4.7)!	*** (***)	75 (2.4)	30 (3.8)!	2 (0.7)!	*** (***)	14 (1.5)
South Carolina	84 (1.9)!	40 (4.7)!	56 (4.5)!	64 (1.6)	26 (6.1)!	2 (1.7)!	7 (2.0)!	12 (1.2)
Tennessee	83 (6.4)!	35 (5.1)!	59 (6.2)!	66 (2.2)	24 (4.0)!	1 (0.8)!	6 (1.9)!	9 (1.1)
Texas	95 (1.5)!	57 (5.5)!	78 (4.0)!	70 (2.7)	38 (4.9)!	10 (2.9)!	17 (3.0)!	11 (1.1)
Utah	87 (1.8)	61 (7.6)!	75 (4.3)!	79 (1.7)	29 (2.7)	8 (3.4)!	17 (3.9)!	16 (1.3)
Virginia	90 (2.0)!	51 (4.6)!	68 (3.5)!	73 (2.6)	30 (5.2)!	3 (0.9)!	9 (1.9)!	18 (2.2)
West Virginia	*** (***)	61 (5.2)!	68 (3.2)!	68 (2.0)	*** (***)	11 (3.6)!	10 (2.2)!	11 (1.3)
Wisconsin	90 (2.7)!	56 (6.3)!	87 (2.4)	85 (1.7)	42 (6.7)!	9 (3.3)!	23 (2.6)	23 (1.8)
Wyoming	87 (3.2)!	74 (5.5)!	87 (2.5)	81 (1.7)	29 (4.9)!	7 (2.6)!	21 (2.9)	17 (1.5)
TERRITORY								
Guam	*** (***)	*** (***)	30 (3.3)	45 (1.5)	*** (***)	*** (***)	2 (0.8)	5 (0.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE A.9 | Anchor Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 4 - 1992							
	Percentage of Students At or Above Level 300				Percentage of Students At or Above Level 350			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	2 (0.9)!	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)!	0 (0.0)	0 (0.0)	0 (0.0)
Northeast	2 (1.4)!	0 (0.0)!	*** (***)	0 (0.3)	0 (0.0)!	0 (0.0)!	*** (***)	0 (0.0)
Southeast	2 (1.8)!	0 (0.0)!	0 (0.0)!	0 (0.4)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Central	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.2)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
West	4 (2.9)!	0 (0.0)!	0 (0.0)!	0 (0.2)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
STATES								
Alabama	0 (0.2)!	0 (0.0)!	0 (0.0)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Arizona	0 (0.1)!	0 (0.2)!	0 (0.2)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Arkansas	*** (***)	0 (0.0)!	0 (0.2)	0 (0.1)	*** (***)	0 (0.0)!	0 (0.0)	0 (0.0)
California	1 (0.5)!	0 (0.0)	*** (***)	0 (0.1)	0 (0.0)!	0 (0.0)	*** (***)	0 (0.0)
Colorado	1 (0.4)	0 (0.1)!	0 (0.0)!	0 (0.2)	0 (0.0)	0 (0.0)!	0 (0.0)!	0 (0.0)
Connecticut	1 (0.8)!	0 (0.4)!	*** (***)	1 (0.5)	0 (0.0)!	0 (0.0)!	*** (***)	0 (0.0)
Delaware	0 (0.5)	0 (0.0)	0 (0.1)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Dist. Columbia	1 (0.8)	0 (0.0)	*** (***)	0 (0.1)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Florida	1 (0.7)!	0 (0.0)	0 (0.0)!	0 (0.1)	0 (0.0)!	0 (0.0)	0 (0.0)!	0 (0.0)
Georgia	0 (0.3)!	0 (0.0)!	0 (0.3)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Hawaii	1 (0.7)!	0 (0.0)!	0 (0.0)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Idaho	0 (0.3)!	*** (***)	0 (0.2)	0 (0.1)	0 (0.0)!	*** (***)	0 (0.0)	0 (0.0)
Indiana	1 (0.8)!	0 (0.0)!	0 (0.0)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Iowa	1 (1.1)!	0 (0.0)!	0 (0.2)	0 (0.2)	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)
Kentucky	1 (1.2)!	0 (0.0)!	0 (0.1)	0 (0.0)	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)
Louisiana	0 (0.0)!	0 (0.0)	0 (0.0)!	0 (0.1)	0 (0.0)!	0 (0.0)	0 (0.0)!	0 (0.0)
Maine	*** (***)	*** (***)	0 (0.4)!	1 (0.3)	*** (***)	*** (***)	0 (0.0)!	0 (0.0)
Maryland	1 (0.6)	0 (0.0)!	0 (0.0)!	0 (0.2)	0 (0.0)	0 (0.0)!	0 (0.0)!	0 (0.0)
Massachusetts	2 (0.7)!	0 (0.0)	*** (***)	0 (0.2)	0 (0.0)!	0 (0.0)	*** (***)	0 (0.0)
Michigan	1 (0.8)!	0 (0.0)!	0 (0.4)!	0 (0.3)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Minnesota	0 (0.4)!	*** (***)	0 (0.1)	0 (0.2)	0 (0.0)!	*** (***)	0 (0.0)	0 (0.0)
Mississippi	*** (***)	0 (0.0)!	0 (0.5)	0 (0.0)	*** (***)	0 (0.0)!	0 (0.0)	0 (0.0)
Missouri	1 (0.9)!	0 (0.0)!	0 (0.2)	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)
Nebraska	1 (0.6)!	0 (0.0)!	0 (0.4)	0 (0.2)	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)
New Hampshire	1 (1.0)!	*** (***)	1 (1.0)!	0 (0.2)	0 (0.0)!	*** (***)	0 (0.0)!	0 (0.0)
New Jersey	1 (0.5)	0 (0.1)!	*** (***)	0 (0.4)	0 (0.0)	0 (0.0)!	*** (***)	0 (0.0)
New Mexico	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
New York	1 (0.5)!	0 (0.0)	*** (***)	0 (0.1)	0 (0.0)!	0 (0.0)	*** (***)	0 (0.0)
North Carolina	1 (1.4)!	0 (0.0)!	0 (0.2)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
North Dakota	1 (0.6)!	*** (***)	0 (0.3)	0 (0.1)	0 (0.0)!	*** (***)	0 (0.0)	0 (0.0)
Ohio	1 (0.5)!	0 (0.0)	0 (0.0)!	0 (0.1)	0 (0.0)!	0 (0.0)	0 (0.0)!	0 (0.0)
Oklahoma	0 (0.7)!	0 (0.2)!	0 (0.0)	0 (0.2)	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)
Pennsylvania	1 (0.6)!	0 (0.0)	0 (0.5)!	0 (0.2)	0 (0.0)!	0 (0.0)	0 (0.0)!	0 (0.0)
Rhode Island	1 (0.5)!	0 (0.0)!	*** (***)	0 (0.2)	0 (0.0)!	0 (0.0)!	*** (***)	0 (0.0)
South Carolina	0 (0.4)!	0 (0.0)!	0 (0.3)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Tennessee	0 (0.8)!	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Texas	0 (0.7)!	0 (0.2)!	0 (0.4)!	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
Utah	1 (0.6)	0 (0.0)!	0 (0.0)!	0 (0.2)	0 (0.0)	0 (0.0)!	0 (0.0)!	0 (0.0)
Virginia	1 (1.0)!	0 (0.0)!	0 (0.1)!	0 (0.2)	0 (0.0)!	0 (0.0)!	0 (0.0)!	0 (0.0)
West Virginia	*** (***)	0 (0.2)!	0 (0.0)!	0 (0.1)	*** (***)	0 (0.0)!	0 (0.0)!	0 (0.0)
Wisconsin	2 (1.5)!	0 (0.0)!	0 (0.2)	0 (0.4)	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)
Wyoming	0 (0.3)!	0 (0.0)!	0 (0.3)	0 (0.1)	0 (0.0)!	0 (0.0)!	0 (0.0)	0 (0.0)
TERRITORY								
Guam	*** (***)	*** (***)	0 (0.2)	0 (0.0)	*** (***)	*** (***)	0 (0.0)	0 (0.0)

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TABLE A.9 | Anchor Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1992							
	Percentage of Students At or Above Level 200				Percentage of Students At or Above Level 250			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	99 (0.8)!	87 (2.7)	98 (1.1)!	97 (0.4)	83 (3.6)!	34 (3.1)	71 (5.7)!	69 (1.5)
Northeast	99 (1.7)!	90 (3.1)!	*** (***)	97 (1.1)	88 (4.5)!	28 (3.6)!	*** (***)	65 (3.7)
Southeast	97 (1.1)!	86 (6.1)!	97 (2.4)!	96 (1.0)	72 (2.0)!	34 (7.3)!	57 (6.5)!	61 (2.2)
Central	100 (0.4)	86 (3.4)!	100 (0.6)!	99 (0.4)	86 (3.5)!	30 (7.8)!	86 (5.0)!	78 (2.4)
West	98 (2.5)!	88 (3.6)!	95 (1.9)!	97 (0.5)	81 (8.7)!	44 (5.3)!	68 (6.1)!	69 (2.8)
STATES								
Alabama	99 (2.0)!	87 (3.0)!	96 (1.3)!	93 (1.9)	62 (4.8)!	31 (6.0)!	55 (3.7)!	54 (2.5)
Arizona	100 (0.4)!	94 (2.2)!	94 (3.0)!	97 (0.7)	84 (3.8)!	53 (5.0)!	56(12.1)!	67 (2.1)
Arkansas	*** (***)	85 (5.2)!	98 (0.7)!	94 (0.9)	*** (***)	36 (7.4)!	64 (3.9)!	57 (1.8)
California	99 (1.0)!	84 (3.0)	*** (***)	96 (0.8)	87 (3.3)!	36 (4.4)	*** (***)	65 (2.7)
Colorado	99 (0.6)	93 (1.4)!	99 (1.2)!	98 (0.5)	87 (2.1)	54 (3.9)!	79 (3.2)!	75 (1.8)
Connecticut	99 (0.8)!	90 (2.8)	*** (***)	99 (0.4)	80 (4.5)!	41 (3.9)	*** (***)	81 (1.9) >
Delaware	*** (***)	*** (***)	96 (1.3)	95 (0.9)	*** (***)	*** (***)	67 (2.5)	63 (1.5)
Dist. Columbia	93 (3.3)	79 (1.5)	*** (***)	90 (1.8)	53 (5.1)	21 (2.0)	*** (***)	51 (2.5) »
Florida	98 (1.4)!	90 (3.8)!	91 (3.5)!	95 (1.0)	70 (5.7)!	49 (6.4)!	62 (6.7)!	62 (2.6)
Georgia	97 (1.2)!	92 (2.9)!	93 (2.8)!	96 (0.7)	76 (7.6)!	48 (5.1)!	47 (3.5)!	61 (2.0)
Hawaii	94 (3.0)	84 (2.8)	*** (***)	94 (1.0)	54 (5.4)	38 (3.3)	*** (***)	60 (1.8) >
Idaho	100 (0.0)!	99 (0.9)!	99 (0.5)	99 (0.3)	91 (2.5)!	83 (5.0)!	80 (2.0)	79 (1.4)
Indiana	99 (0.7)!	91 (2.0)!	98 (1.3)	99 (0.4)	88 (4.7)!	42 (2.4)!	71 (4.0)	77 (1.6)
Iowa	100 (0.0)!	97 (1.8)!	100 (0.2)	99 (0.3)	92 (3.1)!	73 (3.8)!	91 (1.6) >	84 (1.6)
Kentucky	99 (1.2)!	94 (2.9)!	96 (1.5)!	97 (0.7)	83 (5.2)!	51 (4.1)!	67 (3.0)!	65 (1.7)
Louisiana	*** (***)	79 (3.9)	96 (0.8)! >	95 (0.9)	*** (***)	26 (4.4)	57 (6.4)! >	53 (2.3)
Maine	*** (***)	*** (***)	98 (1.0)!	99 (0.4)	*** (***)	*** (***)	83 (2.9)!	83 (1.4)
Maryland	99 (0.6)	86 (4.6)!	*** (***)	96 (1.1)	82 (3.6)	38 (8.5)!	*** (***)	66 (2.8)
Massachusetts	100 (0.0)!	93 (2.0)	*** (***)	99 (0.5)	95 (3.0)!	45 (5.4)	*** (***)	80 (2.3)
Michigan	99 (1.1)!	85 (2.6)	100 (0.4)!	99 (0.4)	87 (6.1)!	36 (4.3)	81 (2.7)!	73 (1.9)
Minnesota	100 (0.0)!	*** (***)	100 (0.4)!	99 (0.3)	87 (3.1)!	*** (***)	84 (2.2)!	83 (1.5)
Mississippi	*** (***)	89 (3.7)!	91 (3.0)!	90 (1.1)	*** (***)	38 (7.4)!	44 (6.1)!	44 (2.0)
Missouri	98 (1.1)!	93 (2.9)!	99 (0.7)!	99 (0.4)	74 (4.0)!	51 (7.0)!	76 (3.4)!	77 (1.7)
Nebraska	*** (***)	91 (3.9)	99 (0.3)	99 (0.4)	*** (***)	50 (5.1)	84 (2.4)	81 (1.5) >
New Hampshire	100 (0.0)!	*** (***)	100 (1.2)!	99 (0.3)	95 (3.3)! >	*** (***)	85 (4.5)!	82 (1.3)
New Jersey	100 (0.0)!	89 (2.4)	*** (***)	100 (0.3)	93 (2.4)!	34 (4.3)	*** (***)	83 (1.5) >
New Mexico	100 (0.0)	96 (2.0)!	94 (3.2)!	97 (0.6)	88 (3.1)	55 (4.9)!	63(11.5)!	61 (1.9)
New York	100 (0.0)!	78 (4.8)!	99 (0.5)!	97 (1.4)	90 (2.0)!	29 (5.6)!	82 (4.3)!	72 (3.4)
North Carolina	99 (1.3)!	90 (3.0)!	92 (2.6)!	95 (0.9)	78(12.2)!	39 (6.6)!	53 (4.7)!	60 (1.8) >
North Dakota	100 (0.0)!	*** (***)	100 (0.2)	100 (0.3)	91 (4.0)!	*** (***)	87 (1.9)	86 (1.4)
Ohio	100 (0.8)!	92 (1.9)	100 (0.0)!	98 (0.5)	92 (3.5)!	45 (4.0)	83 (4.3)!	74 (2.7)
Oklahoma	*** (***)	99 (1.4)!	98 (1.4)!	97 (0.5)	*** (***)	76 (4.4)! >	72 (4.1)!	73 (1.9)
Pennsylvania	100 (0.0)!	90 (3.2)!	99 (0.5)!	99 (0.3)	86 (5.6)!	43 (6.4)!	80 (3.5)!	79 (1.4)
Rhode Island	100 (0.0)	87 (2.9)	*** (***)	98 (0.4) »	85 (3.0)	41 (2.2)	*** (***)	73 (1.5) »
South Carolina	99 (1.0)!	92 (2.1)!	99 (1.5)!	96 (0.6)	84 (7.5)!	45 (6.3)!	69 (4.9)!	59 (1.5)
Tennessee	100 (1.1)!	81 (4.8)!	98 (1.5)!	96 (0.6)	82 (2.6)!	27(11.5)!	64 (3.4)!	61 (2.0)
Texas	100 (0.5)!	93 (1.4)!	98 (2.0)!	96 (0.7)	89 (2.7)!	46 (3.6)!	63 (7.5)!	65 (2.3)
Utah	100 (0.5)	99 (0.7)!	98 (1.6)!	98 (0.3)	85 (3.1)	74 (3.9)!	73 (2.1)!	77 (1.5)
Virginia	99 (0.6)!	93 (1.6)!	97 (1.5)!	97 (0.5)	87 (2.8)!	52 (6.4)!	62 (5.1)!	67 (1.9)
West Virginia	*** (***)	97 (1.2)	97 (1.2)!	97 (0.7)	*** (***)	59 (2.8)	58 (3.7)!	61 (1.9)
Wisconsin	100 (0.8)!	88 (5.3)!	99 (0.4)!	99 (0.4)	92 (4.1)!	38 (3.8)!	88 (3.5)!	80 (1.7)
Wyoming	*** (***)	100 (0.5)!	99 (0.6)!	99 (0.3)	*** (***)	77 (5.6)!	81 (3.4)	81 (1.3)
TERRITORIES								
Guam	*** (***)	*** (***)	63 (6.1)	83 (1.2)	*** (***)	*** (***)	18 (3.4) «	37 (1.6) >
Virgin Islands	*** (***)	*** (***)	67 (3.5)	73 (2.6)	*** (***)	*** (***)	16 (2.4)	14 (1.6)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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PUBLIC SCHOOLS	Grade 8 - 1992							
	Percentage of Students At or Above Level 300				Percentage of Students At or Above Level 350			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	37 (5.4)!	5 (1.3)	16 (3.2)!	19 (1.0)	2 (1.1)!	0 (0.1)	0 (0.4)!	1 (0.2)
Northeast	44 (8.4)!	2 (1.1)!	*** (***)	20 (3.0)	3 (2.2)!	0 (0.0)!	*** (***)	1 (0.3)
Southeast	25 (3.0)!	5 (2.3)!	7 (2.8)!	13 (1.3)	0 (0.7)!	0 (0.3)!	0 (0.1)!	0 (0.1)
Central	38(13.5)!	4 (3.3)!	25 (3.1)!	22 (2.6)	1 (1.1)!	0 (0.0)!	1 (1.3)!	1 (0.3)
West	35(13.0)!	8 (2.7)!	17 (5.0)!	19 (1.9)	3 (2.9)!	0 (0.3)!	0 (0.0)!	1 (0.4)
STATES								
Alabama	13 (6.9)!	5 (2.4)!	7 (1.2)!	11 (1.5)	0 (0.0)!	0 (0.2)!	0 (0.0)!	0 (0.1)
Arizona	24 (5.2)!	5 (1.5)!	11 (4.2)!	14 (1.3)	1 (1.0)!	0 (0.2)!	0 (0.0)!	0 (0.1)
Arkansas	*** (***)	3 (2.0)!	8 (1.8)!	9 (0.9)	*** (***)	0 (0.0)!	0 (0.3)!	0 (0.1)
California	41 (7.3)!	3 (1.4)	*** (***)	16 (1.5)	4 (2.8)!	0 (0.0)	*** (***)	0 (0.3)
Colorado	30 (2.9)	11 (2.1)!	19 (3.3)!	20 (1.5) >	1 (0.5)	0 (0.2)!	0 (0.4)!	1 (0.2)
Connecticut	37 (7.3)!	5 (2.0)	*** (***)	27 (1.7) »	1 (1.1)!	0 (0.3)	*** (***)	1 (0.3)
Delaware	*** (***)	*** (***)	12 (2.2)	15 (1.0)	*** (***)	*** (***)	0 (0.5)	1 (0.3)
Dist. Columbia	9 (2.7)	1 (0.3)	*** (***)	13 (3.8) >	0 (0.5)	0 (0.0)	*** (***)	1 (0.9)
Florida	22 (4.7)!	11 (3.0)!	9 (3.3)!	14 (1.5)	1 (0.9)!	0 (0.2)!	0 (0.0)!	0 (0.2)
Georgia	23 (4.5)!	5 (1.7)!	6 (3.9)!	12 (1.3)	0 (0.5)!	0 (0.0)!	0 (0.0)!	0 (0.3)
Hawaii	12 (2.1) <	6 (1.1)	*** (***)	13 (1.0)	1 (1.3)	0 (0.8)	*** (***)	0 (0.2)
Idaho	35 (9.6)!	25 (7.9)!	19 (2.3)	21 (1.3)	1 (1.0)!	0 (0.5)!	0 (0.3)	0 (0.3)
Indiana	34 (5.2)!	4 (0.9)!	16 (3.5)	20 (1.6)	2 (1.0)!	0 (0.0)!	0 (0.4)	1 (0.3)
Iowa	43 (9.2)!	17 (6.5)!	32 (2.3)	27 (2.0)	1 (1.7)!	0 (1.5)!	1 (0.4)	1 (0.5)
Kentucky	39 (6.0)!	8 (2.1)!	12 (2.0)!	13 (1.2)	2 (1.6)!	0 (0.4)!	0 (0.0)!	0 (0.3)
Louisiana	*** (***)	1 (0.7)	5 (3.1)!	8 (1.2)	*** (***)	0 (0.0)	0 (0.0)!	0 (0.1)
Maine	*** (***)	*** (***)	21 (2.1)!	25 (2.0)	*** (***)	*** (***)	1 (0.4)!	1 (0.3)
Maryland	34 (3.9)	7 (2.8)!	*** (***)	19 (2.5)	2 (0.9)	0 (0.4)!	*** (***)	1 (0.6)
Massachusetts	54 (8.2)!	4 (1.6)	*** (***)	24 (1.8)	4 (1.7)!	0 (0.0)	*** (***)	1 (0.2)
Michigan	43(10.2)!	4 (1.1)	17 (2.9)!	18 (1.9)	1 (1.5)!	0 (0.1)	0 (0.2)!	0 (0.2)
Minnesota	38 (8.2)!	*** (***)	26 (2.4)!	30 (1.8)	2 (1.5)!	*** (***)	1 (0.5)!	1 (0.4)
Mississippi	*** (***)	4 (1.3)!	5 (1.7)!	6 (0.8)	*** (***)	0 (0.2)!	0 (0.0)!	0 (0.1)
Missouri	31 (6.0)!	9 (2.0)!	16 (3.1)!	19 (1.5)	2 (1.7)!	0 (0.2)!	0 (0.4)!	0 (0.2)
Nebraska	*** (***)	11 (2.9)	28 (3.3)	23 (1.9)	*** (***)	0 (0.0)	0 (0.5)	1 (0.3)
New Hampshire	46 (3.5)! >	*** (***)	27 (4.6)!	22 (1.4)	1 (2.0)!	*** (***)	0 (0.0)!	1 (0.2)
New Jersey	49 (5.7)!	1 (0.9)	*** (***)	26 (2.0) >	2 (1.7)!	0 (0.2)	*** (***)	1 (0.3)
New Mexico	25 (3.8)	4 (2.3)!	6 (3.9)!	10 (1.0)	0 (0.4)	0 (0.0)!	0 (0.0)!	0 (0.1)
New York	40 (5.0)!	2 (1.6)!	22 (2.3)!	19 (2.0)	4 (1.8)!	0 (0.0)!	1 (0.5)!	1 (0.3)
North Carolina	34(12.2)!	5 (2.6)!	9 (1.9)!	11 (1.1)	1 (2.7)!	0 (0.0)!	0 (0.0)!	0 (0.1)
North Dakota	33 (3.3)!	*** (***)	27 (2.0)	26 (2.1)	0 (0.4)!	*** (***)	0 (0.3)	1 (0.4)
Ohio	50 (8.4)!	6 (1.8)	18 (2.8)!	17 (1.6)	2 (1.1)!	0 (0.0)	0 (0.5)!	0 (0.2)
Oklahoma	*** (***)	13 (6.5)!	12 (2.5)!	17 (1.5)	*** (***)	0 (0.0)!	0 (0.3)!	0 (0.2)
Pennsylvania	37 (6.1)!	7 (2.2)!	23 (5.4)!	22 (1.7) >	1 (1.7)!	0 (0.0)!	0 (0.4)!	0 (0.3)
Rhode Island	33 (4.3)	5 (2.3)	*** (***)	15 (1.1)	1 (1.5)	0 (0.0)	*** (***)	0 (0.1)
South Carolina	21 (4.7)!	5 (2.9)!	20 (2.8)!	14 (1.1)	1 (0.9)!	0 (0.0)!	0 (0.6)!	0 (0.1)
Tennessee	28 (4.5)!	3 (3.2)!	9 (1.9)!	11 (1.1)	1 (1.3)!	0 (0.0)!	0 (0.0)!	0 (0.2)
Texas	39 (2.9)! >	5 (1.6)!	17 (4.5)!	17 (1.8)	4 (2.0)!	0 (0.3)!	0 (0.0)!	0 (0.2)
Utah	30 (3.4)	15 (3.3)	20 (3.6)!	20 (1.3)	1 (0.5)	0 (0.3)!	0 (0.4)!	0 (0.2)
Virginia	32 (3.9)!	7 (2.3)!	10 (3.0)!	16 (1.4)	2 (1.3)!	0 (0.3)!	0 (0.2)!	0 (0.2)
West Virginia	*** (***)	6 (1.7)	8 (1.9)!	9 (1.0)	*** (***)	0 (0.2)	0 (0.0)!	0 (0.0)
Wisconsin	39 (5.7)!	4 (1.7)!	26 (2.4)!	26 (1.6)	2 (1.5)!	0 (0.0)!	1 (0.9)!	1 (0.4)
Wyoming	*** (***)	17 (5.6)!	20 (2.6)!	19 (1.4)	*** (***)	1 (1.2)!	0 (0.4)!	0 (0.2)
TERRITORIES								
Guam	*** (***)	*** (***)	1 (0.9) <	6 (0.6) »	*** (***)	*** (***)	0 (0.0)	0 (0.1)
Virgin Islands	*** (***)	*** (***)	0 (0.5)	0 (0.2)	*** (***)	*** (***)	0 (0.0)	0 (0.0)

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767

TABLE A.9 | Anchor Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Percentage of Students At or Above Level 200				Percentage of Students At or Above Level 250			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	99 (1.5)!	92 (2.2)!	95 (2.7)!	95 (1.1)	83 (4.5)!	49 (5.0)!	58 (6.8)!	64 (1.9)
Northeast	98 (2.6)!	87 (9.9)!	*** (***)	98 (1.2)	85 (9.7)!	41 (7.6)!	*** (***)	75 (3.4)
Southeast	*** (***)	*** (***)	91(14.2)!	93 (2.1)	*** (***)	*** (***)	53(25.3)!	55 (3.1)
Central	*** (***)	91 (3.5)!	*** (***)	97 (1.7)	*** (***)	35 (6.0)!	*** (***)	70 (4.2)
West	98 (1.6)!	94 (3.3)!	94 (2.5)!	94 (2.5)	82 (2.0)!	56 (7.9)!	52(12.3)!	61 (3.8)
STATES								
Alabama	97 (1.4)!	92 (2.4)!	91 (2.0)!	94 (1.0)	67 (5.6)!	45 (5.0)!	48 (5.0)!	53 (2.2)
Arizona	99 (0.5)!	92 (2.7)!	93 (3.8)!	95 (1.2)	78 (2.8)!	47 (5.3)!	48 (9.1)!	61 (2.9)
Arkansas	97 (2.5)!	88 (3.3)!	97 (0.8)	96 (0.7)	71 (4.8)!	37 (5.1)!	57 (3.1)	60 (1.6)
California	98 (1.1)!	90 (2.7)!	*** (***)	94 (1.1)	79 (3.0)!	40 (5.7)!	*** (***)	57 (2.2)
Colorado	99 (0.3)	94 (2.9)!	98 (0.9)	97 (0.5)	83 (2.2)	47 (8.5)!	73 (3.9)	67 (2.0)
Connecticut	100 (0.1)	89 (1.5)	*** (***)	97 (0.8)	86 (2.0)	37 (5.1)	*** (***)	73 (1.9)
Delaware	98 (1.5)	*** (***)	95 (1.4)	95 (0.9)	79 (3.4)	*** (***)	61 (2.1)	59 (1.5)
Dist. Columbia	96 (0.9)	80 (1.6)	*** (***)	86 (2.4)	53 (3.6)	20 (1.3)	*** (***)	31 (3.1)
Florida	97 (1.4)!	90 (1.5)	94 (2.2)!	93 (1.2)	73 (3.4)!	39 (2.6)	49 (4.6)!	57 (2.1)
Georgia	99 (0.6)!	94 (2.4)!	93 (1.3)	94 (1.0)	85 (2.3)!	45 (5.4)!	52 (2.8)	58 (2.1)
Hawaii	95 (2.2)	82 (2.8)	*** (***)	91 (0.7)	70 (3.3)	37 (2.4)	*** (***)	52 (1.4)
Idaho	*** (***)	*** (***)	98 (0.6)	99 (0.5)	*** (***)	*** (***)	74 (1.4)	77 (1.6)
Indiana	99 (0.9)!	94 (3.0)!	99 (0.6)	98 (0.5)	82 (3.5)!	40 (7.9)!	70 (3.7)	72 (1.7)
Iowa	100 (0.9)!	97 (1.4)!	100 (0.3)	99 (0.4)	91 (2.9)!	63 (3.7)!	83 (1.5)	80 (1.6)
Kentucky	97 (1.3)!	94 (1.9)!	96 (1.4)	97 (0.6)	69 (4.2)!	45 (4.3)!	55 (3.1)	60 (2.0)
Louisiana	97 (1.8)!	87 (2.9)	88 (2.3)!	94 (0.9)	70 (5.4)!	32 (5.1)	33 (4.6)!	51 (2.5)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	97 (1.1)	85 (3.6)!	93 (2.9)!	95 (0.9)	75 (4.6)	30 (4.8)!	60 (5.9)!	63 (2.6)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	100 (0.0)!	88 (3.0)!	98 (1.1)	98 (0.5)	84 (1.8)!	34 (4.4)!	71 (2.9)	71 (2.2)
Minnesota	99 (0.8)	*** (***)	99 (1.0)	99 (0.4)	80 (1.8)	*** (***)	80 (1.2)	82 (1.8)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	99 (0.6)	*** (***)	99 (0.4)	97 (0.7)	88 (4.0)	*** (***)	83 (2.3)	75 (1.4)
New Hampshire	98 (1.5)	*** (***)	99 (0.9)!	99 (0.3)	80 (2.6)	*** (***)	79 (6.0)!	79 (1.1)
New Jersey	100 (0.3)	90 (2.5)	*** (***)	98 (0.5)	86 (2.2)	34 (3.6)	*** (***)	73 (2.5)
New Mexico	100 (0.5)	96 (2.6)	96 (1.3)	95 (0.6)	90 (3.3)	61 (4.8)	55 (3.3)	55 (1.3)
New York	100 (0.3)!	86 (2.1)	100 (0.0)!	98 (0.6)	82 (3.0)!	36 (3.6)	80 (2.2)!	74 (1.9)
North Carolina	93 (2.9)!	85 (4.9)!	89 (1.3)	93 (0.9)	70 (7.3)!	43(13.7)!	44 (3.3)	52 (1.7)
North Dakota	100 (0.0)	*** (***)	98 (0.6)	99 (0.4)	89 (2.9)	*** (***)	84 (2.6)	87 (2.0)
Ohio	100 (0.6)!	90 (2.2)	98 (0.8)!	98 (0.4)	85 (2.1)!	39 (5.4)	73 (4.3)!	67 (1.7)
Oklahoma	100 (0.4)!	96 (1.9)!	96 (1.3)	98 (0.6)	86 (2.8)!	52 (5.4)!	60 (3.8)	69 (2.2)
Pennsylvania	100 (0.1)!	89 (2.4)!	98 (1.5)!	98 (0.6)	88 (2.5)!	44 (6.5)!	74 (4.1)!	72 (2.0)
Rhode Island	99 (0.6)	90 (1.6)	*** (***)	95 (0.7)	78 (2.4)	44 (2.6)	*** (***)	60 (1.2)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	99 (0.7)!	93 (1.6)!	98 (1.2)!	95 (1.2)	79 (3.1)!	42 (3.3)!	67 (4.7)!	58 (2.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	99 (0.4)	94 (3.8)!	93 (2.5)	97 (0.6)	81 (2.8)	42 (6.9)!	47 (3.4)	62 (2.0)
West Virginia	*** (***)	97 (1.7)!	95 (1.3)!	96 (0.7)	*** (***)	61 (3.5)!	57 (2.0)!	56 (1.7)
Wisconsin	99 (0.8)!	91 (2.9)!	100 (0.3)	99 (0.4)	91 (2.7)!	41 (4.5)!	86 (2.5)	79 (1.8)
Wyoming	*** (***)	*** (***)	99 (0.3)	99 (0.3)	*** (***)	*** (***)	82 (1.7)	79 (1.6)
TERRITORIES								
Guam	*** (***)	*** (***)	81 (2.6)	78 (1.3)	*** (***)	*** (***)	35 (2.0)	30 (1.5)
Virgin Islands	*** (***)	*** (***)	63 (2.9)	76 (1.4)	*** (***)	*** (***)	8 (3.7)	15 (1.0)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE A.9 | Anchor Levels by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Percentage of Students At or Above Level 300				Percentage of Students At or Above Level 350			
	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	29 (5.7)!	9 (2.7)!	9 (2.5)!	14 (1.2)	2 (1.6)!	0 (0.1)!	0 (0.0)!	0 (0.2)
Northeast	27(10.2)!	9(10.9)!	*** (***)	22 (4.0)	1 (1.3)!	0 (0.0)!	*** (***)	1 (0.6)
Southeast	*** (***)	*** (***)	11 (6.5)!	11 (2.2)	*** (***)	*** (***)	0 (0.0)!	0 (0.3)
Central	*** (***)	1 (1.5)!	*** (***)	15 (1.8)	*** (***)	0 (0.0)!	*** (***)	0 (0.5)
West	32(10.7)!	12 (4.2)!	8 (5.4)!	12 (1.9)	4 (2.6)!	0 (0.2)!	0 (0.0)!	0 (0.1)
STATES								
Alabama	19 (3.7)!	7 (1.8)!	6 (2.0)!	8 (0.9)	1 (1.0)!	0 (0.4)!	0 (0.0)!	0 (0.1)
Arizona	18 (4.0)!	5 (1.8)!	6 (3.1)!	11 (1.3)	1 (0.8)!	0 (0.0)!	0 (0.0)!	0 (0.2)
Arkansas	20 (4.1)!	4 (2.0)!	6 (1.7)	10 (0.9)	0 (0.3)!	0 (0.0)!	0 (0.3)	0 (0.1)
California	26 (4.7)!	5 (1.5)!	*** (***)	11 (1.3)	1 (0.7)!	0 (0.0)!	*** (***)	0 (0.3)
Colorado	26 (2.2)	4 (2.6)!	14 (2.1)	14 (1.1)	1 (0.4)	0 (0.0)!	0 (0.2)	0 (0.2)
Connecticut	33 (2.1)	4 (1.1)	*** (***)	18 (1.3)	1 (0.6)	0 (0.0)	*** (***)	0 (0.2)
Delaware	34 (2.3)	*** (***)	10 (1.6)	12 (1.0)	1 (0.9)	*** (***)	0 (0.3)	1 (0.4)
Dist. Columbia	13 (2.6)	1 (0.3)	*** (***)	2 (0.8)	2 (1.4)	0 (0.0)	*** (***)	0 (0.0)
Florida	18 (2.1)!	5 (1.2)	7 (1.8)!	12 (1.3)	0 (0.4)!	0 (0.0)	0 (0.0)!	0 (0.2)
Georgia	34 (3.7)!	3 (1.8)!	9 (1.5)	11 (1.2)	3 (1.9)!	0 (0.2)!	0 (0.3)	0 (0.3)
Hawaii	23 (2.7)	4 (1.6)	*** (***)	12 (0.9)	1 (0.9)	0 (0.1)	*** (***)	1 (0.2)
Idaho	*** (***)	*** (***)	14 (1.3)	18 (1.7)	*** (***)	*** (***)	0 (0.2)	0 (0.2)
Indiana	27 (4.5)!	4 (2.4)!	13 (2.5)	16 (1.3)	2 (1.2)!	0 (0.3)!	0 (0.4)	0 (0.2)
Iowa	42 (8.4)!	12 (3.1)!	24 (1.8)	23 (2.0)	3 (1.8)!	0 (0.0)!	1 (0.4)	1 (0.2)
Kentucky	22 (3.2)!	7 (2.6)!	7 (1.0)	10 (1.1)	1 (1.0)!	0 (0.0)!	0 (0.0)	0 (0.2)
Louisiana	16 (3.2)!	3 (0.8)	1 (0.8)!	5 (0.7)	2 (1.4)!	0 (0.0)	0 (0.0)!	0 (0.1)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	29 (3.3)	3 (1.5)!	8 (2.9)!	15 (1.9)	2 (0.9)	0 (0.0)!	0 (0.0)!	0 (0.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	29 (3.5)!	1 (1.0)!	14 (3.3)	15 (1.5)	2 (0.7)!	0 (0.0)!	1 (0.5)	0 (0.2)
Minnesota	24 (2.7)	*** (***)	20 (2.4)	24 (1.8)	1 (0.7)	*** (***)	1 (0.7)	1 (0.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	31 (5.1)	*** (***)	25 (2.3)	20 (1.7)	1 (0.8)	*** (***)	0 (0.3)	1 (0.4)
New Hampshire	29 (4.2)	*** (***)	30 (5.8)!	19 (1.3)	1 (0.8)	*** (***)	1 (1.2)!	0 (0.2)
New Jersey	34 (3.8)	3 (0.7)	*** (***)	18 (1.6)	1 (0.6)	0 (0.2)	*** (***)	1 (0.2)
New Mexico	32 (8.4)	9 (3.4)	5 (1.2)	10 (1.0)	1 (1.8)	0 (0.0)	0 (0.1)	0 (0.2)
New York	27 (3.1)!	7 (1.7)	24 (4.3)!	16 (1.5)	2 (1.6)!	0 (0.2)	1 (0.7)!	1 (0.3)
North Carolina	23 (3.3)!	7 (3.8)!	4 (1.4)	8 (0.7)	1 (0.5)!	0 (0.0)!	0 (0.0)	0 (0.1)
North Dakota	29 (5.2)	*** (***)	26 (3.2)	26 (1.9)	2 (1.9)	*** (***)	0 (0.2)	2 (0.7)
Ohio	24 (2.9)!	5 (1.3)	13 (2.8)!	14 (1.1)	1 (0.5)!	0 (0.0)	0 (0.3)!	0 (0.2)
Oklahoma	27 (5.3)!	5 (2.1)!	9 (2.6)	13 (1.4)	0 (0.2)!	0 (0.5)!	0 (0.2)	0 (0.3)
Pennsylvania	36 (3.6)!	7 (2.7)!	13 (3.3)!	15 (1.6)	2 (0.8)!	0 (0.3)!	0 (0.0)!	0 (0.2)
Rhode Island	26 (1.9)	7 (1.8)	*** (***)	12 (0.9)	1 (0.7)	0 (0.4)	*** (***)	0 (0.1)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	23 (3.6)!	7 (1.7)!	13 (1.9)!	11 (1.3)	2 (1.0)!	0 (0.1)!	0 (0.7)!	0 (0.1)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	30 (4.5)	6 (3.8)!	8 (2.6)	13 (1.7)	4 (1.3)	0 (0.0)!	0 (0.2)	1 (0.3)
West Virginia	*** (***)	7 (1.4)!	7 (1.5)!	9 (1.0)	*** (***)	0 (0.2)!	0 (0.1)!	0 (0.1)
Wisconsin	36 (6.9)!	5 (1.3)!	22 (2.5)	24 (1.7)	3 (1.5)!	0 (0.4)!	0 (0.5)	1 (0.3)
Wyoming	*** (***)	*** (***)	20 (2.2)	17 (1.0)	*** (***)	*** (***)	0 (0.3)	0 (0.1)
TERRITORIES								
Guam	*** (***)	*** (***)	5 (0.8)	3 (0.4)	*** (***)	*** (***)	0 (0.2)	0 (0.1)
Virgin Islands	*** (***)	*** (***)	0 (0.4)	1 (0.4)	*** (***)	*** (***)	0 (0.0)	0 (0.0)

(xxx) Did not participate in the 1990 Trial State Assessment.

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Anchor-Level Results by Parents' Highest Level of Education

TABLE A.10 Average Mathematics Proficiency and Anchor Levels by Parents' Highest Level of Education, Grades 4, 8, and 12

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grade 4							
Graduated College	1992	4 (0.3)	204 (2.6)	57 (4.1)	5 (2.3)	0 (0.0)	0 (0.0)
	1990	5 (0.4)	202 (3.7)	54 (4.2)	7 (4.6)	0 (0.0)	0 (0.0)
Some Education after High School	1992	12 (0.5)	213 (1.5)>	68 (2.1)	11 (1.7)	0 (0.0)	0 (0.0)
	1990	15 (0.9)	208 (1.5)	64 (3.2)	7 (1.7)	0 (0.0)	0 (0.0)
Graduated High School	1992	7 (0.4)	224 (1.5)	78 (2.7)	19 (2.3)	0 (0.3)	0 (0.0)
	1990	8 (0.5)	222 (2.5)	78 (2.7)	19 (4.3)	0 (0.1)	0 (0.0)
Did Not Finish High School	1992	41 (1.0)	226 (1.0)>	79 (1.1)	24 (1.4)	1 (0.2)	0 (0.0)
	1990	35 (1.2)	221 (1.5)	75 (2.3)	19 (2.1)	0 (0.1)	0 (0.0)
I Don't Know	1992	35 (0.7)	213 (0.8)>	67 (1.1)>	12 (0.9)>	0 (0.1)	0 (0.0)
	1990	37 (1.3)	207 (1.2)	61 (2.1)	7 (0.9)	0 (0.3)	0 (0.0)
Grade 8							
Graduated College	1992	8 (0.5)	248 (1.7)>	94 (1.3)	46 (3.4)	6 (1.5)	0 (0.2)
	1990	9 (0.8)	242 (2.0)	93 (2.0)	40 (3.5)	3 (1.0)	0 (0.0)
Some Education after High School	1992	24 (0.7)	257 (1.2)	96 (0.9)	58 (1.9)	9 (0.9)	0 (0.0)
	1990	24 (1.1)	255 (1.6)	95 (1.3)	58 (2.4)	8 (1.3)	0 (0.2)
Graduated High School	1992	18 (0.5)	270 (1.1)	98 (0.7)	74 (1.4)	19 (1.1)	0 (0.4)
	1990	17 (0.8)	268 (1.6)	97 (1.3)	71 (1.7)	15 (1.9)	1 (0.6)
Did Not Finish High School	1992	42 (1.3)	280 (1.2)>	98 (0.4)	80 (1.1)	31 (1.5)>	1 (0.3)
	1990	41 (1.8)	274 (1.5)	98 (0.4)	77 (1.7)	23 (2.0)	1 (0.4)
I Don't Know	1992	9 (0.4)	251 (1.6)>	93 (1.0)	50 (2.4)	8 (1.2)	0 (0.1)
	1990	9 (0.6)	241 (3.2)	86 (3.3)	42 (3.3)	5 (1.6)	0 (0.0)
Grade 12							
Graduated College	1992	6 (0.4)	278 (1.7)>	100 (0.4)	81 (2.4)	22 (3.2)	1 (0.6)
	1990	8 (0.7)	272 (2.1)	99 (0.8)	76 (4.7)	15 (2.6)	0 (0.7)
Some Education after High School	1992	21 (0.8)	287 (1.4)	100 (0.2)	88 (1.2)	35 (1.8)	2 (0.4)
	1990	24 (1.1)	283 (2.0)	99 (0.5)	82 (2.1)	31 (2.6)	2 (0.5)
Graduated High School	1992	26 (0.7)	298 (1.0)	100 (0.0)	92 (0.7)	49 (1.4)	5 (0.7)
	1990	27 (1.0)	297 (1.2)	100 (0.1)	92 (1.4)	48 (2.1)	4 (1.0)
Did Not Finish High School	1992	43 (1.1)	310 (1.2)>	100 (0.1)	95 (0.7)	64 (1.5)	11 (1.0)
	1990	39 (1.4)	306 (1.6)	100 (0.2)	93 (0.9)	59 (2.0)	9 (1.5)
I Don't Know	1992	3 (0.6)	276 (3.0)	99 (1.6)	77 (4.5)	25 (4.8)	1 (1.9)
	1990	2 (0.3)	268 (4.9)	96 (3.7)	71 (7.6)	19 (4.6)	1 (0.9)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

TABLE A.11 | Anchor Levels by Parents' Highest Level of Education

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Level 200					Percentage of Students At or Above Level 250				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	78 (1.2)	77 (3.1)	67 (2.3)	55 (4.4)	66 (1.2)	23 (1.6)	19 (2.8)	11 (1.9)	5 (2.2)	11 (1.0)
Northeast	81 (2.9)	80 (6.0)	70 (6.9)	*** (***)	70 (3.1)	31 (4.3)	26 (6.0)	12 (5.4)	*** (***)	14 (2.2)
Southeast	68 (2.3)	72 (6.2)	55 (4.9)	50 (8.8)	57 (2.5)	15 (2.0)	15 (5.3)	5 (2.6)	4 (2.7)	6 (0.9)
Central	84 (2.8)	86 (6.1)	74 (4.9)	*** (***)	71 (3.4)	25 (2.6)	19 (5.4)	16 (4.1)	*** (***)	13 (1.8)
West	77 (2.1)	70 (5.9)	73 (4.0)	52 (8.1)	65 (2.3)	21 (3.6)	16 (2.8)	11 (4.2)	5 (2.6)	11 (2.2)
STATES										
Alabama	62 (3.0)	72 (3.0)	54 (2.9)	54 (4.1)	53 (3.0)	12 (2.0)	14 (2.3)	6 (1.5)	6 (1.8)	7 (1.2)
Arizona	75 (2.1)	80 (2.7)	63 (3.6)	54 (6.3)	62 (2.0)	17 (1.4)	20 (3.0)	9 (2.1)	4 (2.0)	8 (1.2)
Arkansas	66 (2.1)	72 (3.2)	62 (3.0)	48 (4.0)	60 (1.8)	13 (1.9)	12 (2.4)	7 (1.4)	3 (1.9)	6 (0.9)
California	69 (2.7)	72 (4.1)	52 (4.1)	43 (6.3)	55 (2.2)	17 (1.6)	16 (2.7)	6 (2.1)	4 (1.8)	9 (1.4)
Colorado	83 (1.5)	84 (2.5)	69 (3.0)	50 (5.0)	67 (2.0)	24 (1.5)	21 (3.2)	8 (2.0)	4 (2.0)	11 (1.3)
Connecticut	88 (1.3)	78 (3.9)	77 (3.4)	57 (6.8)	73 (2.2)	32 (2.0)	22 (3.9)	13 (2.7)	7 (3.3)	18 (1.7)
Delaware	75 (2.3)	76 (3.9)	67 (2.5)	42 (5.3)	65 (1.9)	25 (2.0)	13 (4.9)	10 (2.0)	2 (2.4)	9 (1.5)
Dist. Columbia	42 (1.9)	44 (4.2)	32 (3.2)	31 (4.7)	32 (2.2)	8 (0.7)	6 (2.0)	2 (0.8)	0 (1.2)	2 (0.6)
Florida	73 (3.0)	78 (3.4)	57 (3.7)	49 (5.4)	62 (2.1)	18 (2.2)	21 (3.3)	7 (1.7)	3 (2.3)	8 (1.0)
Georgia	73 (2.0)	78 (3.0)	59 (2.7)	51 (4.4)	64 (2.7)	22 (2.1)	18 (2.8)	7 (1.8)	5 (2.4)	10 (1.3)
Hawaii	71 (2.1)	75 (4.1)	54 (2.8)	46 (6.8)	64 (2.0)	18 (1.6)	18 (3.4)	8 (1.6)	6 (3.4)	12 (1.1)
Idaho	83 (1.7)	85 (2.8)	72 (3.1)	51 (6.6)	72 (2.2)	20 (2.1)	20 (3.8)	8 (1.7)	3 (1.7)	10 (1.0)
Indiana	81 (1.7)	86 (3.2)	71 (2.5)	63 (4.7)	70 (1.9)	22 (2.0)	22 (3.3)	11 (1.7)	5 (2.7)	9 (1.1)
Iowa	89 (1.3)	90 (2.1)	81 (2.7)	69 (4.6)	79 (1.6)	32 (1.7)	31 (3.3)	16 (2.5)	8 (3.2)	18 (1.7)
Kentucky	75 (2.3)	77 (3.3)	63 (3.1)	53 (3.7)	64 (2.1)	19 (1.9)	18 (3.2)	9 (1.3)	5 (1.4)	7 (1.1)
Louisiana	59 (2.3)	70 (3.4)	46 (3.2)	42 (6.0)	52 (2.6)	10 (1.7)	12 (3.6)	5 (1.5)	2 (1.5)	5 (0.9)
Maine	93 (1.2)	95 (1.9)	82 (2.8)	75 (6.3)	81 (2.1)	37 (2.2)	37 (4.3)	18 (2.8)	8 (4.4)	17 (1.9)
Maryland	75 (1.7)	79 (3.3)	56 (3.3)	51 (5.7)	62 (2.1)	24 (1.8)	24 (3.2)	11 (1.7)	4 (1.7)	12 (1.4)
Massachusetts	87 (1.2)	86 (2.9)	74 (3.4)	41 (7.2)	73 (2.1)	31 (2.0)	25 (4.4)	14 (2.3)	3 (2.3)	13 (1.4)
Michigan	79 (2.3)	80 (2.8)	70 (3.3)	57 (8.1)	67 (2.3)	27 (2.3)	19 (3.0)	7 (1.5)	5 (2.4)	12 (2.0)
Minnesota	88 (1.4)	85 (3.9)	74 (2.6)	*** (***)	78 (2.1)	34 (2.0)	27 (3.5)	16 (3.1)	*** (***)	19 (1.3)
Mississippi	55 (2.4)	65 (4.0)	46 (3.2)	40 (4.0)	47 (2.3)	8 (1.0)	9 (2.8)	6 (1.2)	2 (1.0)	4 (0.7)
Missouri	82 (1.7)	84 (2.6)	73 (3.2)	64 (6.0)	72 (2.1)	25 (2.0)	21 (3.4)	14 (1.9)	8 (2.7)	11 (1.6)
Nebraska	83 (1.9)	85 (3.0)	75 (3.6)	*** (***)	74 (1.9)	26 (2.6)	26 (3.2)	18 (3.0)	*** (***)	14 (1.6)
New Hampshire	90 (1.3)	90 (2.8)	79 (3.3)	64 (5.6)	79 (1.9)	31 (2.4)	25 (4.4)	15 (2.5)	12 (4.3)	17 (1.8)
New Jersey	86 (1.7)	85 (3.4)	75 (3.3)	66 (7.2)	72 (2.9)	32 (2.3)	25 (5.3)	13 (2.8)	6 (5.2)	14 (1.9)
New Mexico	75 (3.2)	80 (3.9)	59 (3.7)	52 (5.7)	59 (2.5)	18 (2.1)	14 (4.7)	8 (1.6)	4 (1.6)	6 (1.1)
New York	81 (1.7)	80 (3.1)	66 (3.7)	65 (5.5)	63 (2.3)	24 (2.5)	20 (4.9)	7 (1.7)	7 (3.9)	10 (1.5)
North Carolina	70 (2.2)	75 (3.7)	55 (3.0)	52 (4.8)	60 (2.2)	17 (1.4)	17 (2.4)	6 (1.3)	4 (2.2)	7 (1.0)
North Dakota	89 (0.8)	90 (3.9)	80 (2.9)	*** (***)	81 (1.9)	27 (1.8)	28 (3.7)	17 (3.1)	*** (***)	13 (1.7)
Ohio	80 (1.8)	77 (3.6)	71 (3.0)	58 (4.8)	64 (2.2)	24 (2.1)	14 (2.3)	10 (2.1)	6 (2.5)	9 (1.3)
Oklahoma	81 (2.0)	85 (2.9)	73 (3.3)	68 (5.9)	71 (1.9)	18 (1.9)	17 (2.5)	8 (1.9)	5 (3.1)	9 (1.3)
Pennsylvania	84 (2.0)	87 (2.1)	77 (2.5)	66 (5.3)	69 (2.7)	28 (2.4)	35 (3.6)	15 (2.2)	7 (2.4)	13 (1.6)
Rhode Island	79 (2.2)	78 (3.3)	63 (4.9)	52 (5.2)	61 (2.5)	19 (2.0)	13 (3.2)	5 (1.5)	2 (1.4)	9 (1.2)
South Carolina	71 (2.0)	75 (3.1)	57 (3.6)	55 (4.4)	56 (2.1)	20 (1.7)	14 (2.6)	5 (1.0)	6 (2.5)	7 (1.6)
Tennessee	70 (2.7)	68 (3.5)	57 (2.7)	54 (4.7)	58 (2.4)	17 (2.1)	10 (2.1)	4 (1.3)	2 (1.0)	5 (1.0)
Texas	78 (2.3)	82 (3.9)	67 (3.9)	67 (4.4)	66 (2.2)	20 (2.6)	20 (3.7)	10 (2.6)	8 (2.4)	11 (1.4)
Utah	85 (1.9)	85 (2.8)	72 (3.5)	61 (6.6)	73 (1.8)	25 (1.8)	20 (3.4)	12 (2.2)	6 (2.8)	12 (1.1)
Virginia	82 (1.7)	76 (3.2)	64 (4.5)	57 (5.0)	66 (2.3)	27 (2.4)	14 (2.4)	8 (1.8)	3 (1.7)	12 (1.5)
West Virginia	76 (2.1)	80 (3.0)	64 (2.6)	52 (5.6)	63 (2.4)	19 (2.0)	16 (2.5)	8 (1.4)	4 (1.4)	8 (1.0)
Wisconsin	87 (1.4)	91 (2.2)	80 (3.1)	75 (4.9)	78 (1.9)	31 (2.8)	35 (4.6)	19 (2.3)	13 (5.0)	15 (1.5)
Wyoming	86 (1.6)	91 (2.2)	79 (2.5)	73 (6.4)	76 (2.0)	23 (2.1)	25 (3.2)	14 (2.3)	7 (2.5)	11 (1.2)
TERRITORY										
Guam	40 (2.1)	60 (4.5)	35 (4.1)	29 (5.2)	41 (1.9)	4 (1.0)	13 (3.4)	2 (1.2)	3 (2.4)	4 (0.7)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. ***Sample size insufficient to permit reliable estimate. There were fewer than 62 students.

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TABLE A.11 | Anchor Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 4 - 1992									
	Percentage of Students At or Above Level 300					Percentage of Students At or Above Level 350				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	1 (0.2)	0 (0.4)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Northeast	1 (0.7)	1 (1.8)	0 (0.0)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Southeast	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Central	0 (0.3)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
West	1 (0.8)	0 (0.7)	0 (0.0)	0 (0.0)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
STATES										
Alabama	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Arizona	0 (0.2)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Arkansas	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
California	0 (0.2)	0 (0.7)	0 (0.0)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Colorado	0 (0.2)	0 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Connecticut	1 (0.5)	0 (0.6)	0 (0.3)	1 (0.8)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Delaware	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Dist. Columbia	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Florida	0 (0.4)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Georgia	0 (0.2)	0 (0.6)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Hawaii	0 (0.2)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Idaho	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Indiana	0 (0.2)	0 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Iowa	1 (0.3)	0 (0.4)	0 (0.2)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Kentucky	0 (0.1)	0 (0.7)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Louisiana	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Maine	1 (0.3)	0 (0.4)	0 (0.3)	0 (0.0)	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.1)
Maryland	1 (0.4)	0 (0.3)	0 (0.3)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Massachusetts	1 (0.4)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Michigan	1 (0.4)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Minnesota	1 (0.3)	0 (0.0)	0 (0.2)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Mississippi	0 (0.1)	0 (0.0)	0 (0.2)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Missouri	0 (0.3)	0 (0.5)	0 (0.1)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Nebraska	1 (0.3)	1 (0.7)	0 (0.6)	*** (***)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
New Hampshire	1 (0.4)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
New Jersey	1 (0.3)	1 (0.6)	0 (0.5)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
New Mexico	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
New York	1 (0.3)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
North Carolina	0 (0.2)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
North Dakota	0 (0.3)	0 (0.0)	0 (0.4)	*** (***)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	*** (***)	0 (0.0)
Ohio	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Oklahoma	0 (0.2)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Pennsylvania	0 (0.4)	0 (0.7)	0 (0.0)	0 (0.0)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Rhode Island	0 (0.2)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
South Carolina	0 (0.2)	0 (0.3)	0 (0.1)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Tennessee	0 (0.1)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Texas	0 (0.2)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Utah	1 (0.3)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Virginia	1 (0.5)	0 (0.4)	0 (0.3)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
West Virginia	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Wisconsin	1 (0.3)	0 (0.2)	0 (0.3)	3 (4.9)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Wyoming	0 (0.2)	0 (0.0)	0 (0.2)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
TERRITORY										
Guam	0 (0.0)	0 (0.5)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent.

TABLE A.11 | Anchor Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Percentage of Students At or Above Level 200					Percentage of Students At or Above Level 250				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	98 (0.5)	98 (0.8)	95 (1.0)	94 (1.3)	93 (1.2)	78 (1.3)	73 (1.5)	57 (2.1)	46 (3.5)	49 (2.6)
Northeast	98 (1.0)	96 (2.3)	96 (1.8)	94 (3.8)	95 (1.8)	76 (3.7)	70 (3.8)	60 (6.8)	41 (6.2)	48 (6.4)
Southeast	97 (1.1)	96 (1.8)	94 (2.3)	96 (2.9)	90 (3.5)	71 (2.9)	67 (2.7)	47 (2.2)	43 (7.0)	47 (6.4)
Central	99 (0.6)	98 (1.1)	98 (1.0)	*** (***)	96 (2.5)	84 (2.3)	76 (3.3)	70 (3.6)	*** (***)	59 (6.7)
West	98 (0.9)	99 (0.6)	94 (1.8)	93 (1.9)	92 (1.8)	80 (2.3)	77 (3.2)	53 (4.4)	48 (4.4)	46 (3.9)
STATES										
Alabama	95 (1.3)	96 (1.4)	90 (1.6)	91 (2.6)	89 (3.4)	61 (2.6)	60 (2.8)	44 (2.9)	36 (3.2)	35 (4.6)
Arizona	99 (0.5)	98 (0.7)	97 (1.0)	93 (1.8)	93 (1.8)	80 (1.9)	76 (2.2)	58 (2.8)	45 (4.8)	48 (3.5)
Arkansas	95 (0.9)	97 (1.2)	92 (1.3)	92 (2.4)	92 (2.3)	67 (2.6)	67 (2.4)	50 (2.7)	45 (4.4)	46 (4.0)
California	96 (0.7)	96 (1.1)	93 (1.2)	90 (2.2)	84 (2.6)	75 (2.0)	69 (2.6)	52 (3.2)	38 (4.1)	40 (3.4)
Colorado	99 (0.4)	99 (0.7)	97 (0.9)	95 (1.6)	94 (2.0)	84 (1.3)	82 (1.6)	65 (2.4)	52 (3.9)	54 (4.3)
Connecticut	99 (0.4)	99 (0.8)	96 (1.3)	92 (3.6)	93 (2.2)	87 (1.3)	77 (2.3)	63 (2.8)	44 (5.0)	51 (3.8)
Delaware	98 (0.6)	98 (1.1)	94 (1.5)	90 (4.3)	91 (3.0)	74 (1.3)	73 (3.7)	51 (2.7)	52 (6.6)	46 (4.6)
Dist. Columbia	87 (1.6)	88 (2.0)	77 (2.2)	77 (5.1)	81 (3.1)	44 (1.9) >	39 (2.6)	21 (2.0)	23 (4.9)	25 (3.3)
Florida	96 (0.8)	98 (1.0)	93 (1.5)	89 (2.4)	88 (3.1)	69 (2.1)	70 (3.0)	52 (2.7)	45 (4.3)	46 (4.7)
Georgia	97 (0.8)	97 (1.1)	95 (1.3)	91 (1.8)	93 (2.6)	72 (2.2)	69 (2.3)	49 (2.2)	44 (3.3)	42 (4.4)
Hawaii	96 (0.7)	97 (1.1)	91 (1.7)	88 (4.1)	89 (1.8)	67 (1.9)	69 (3.1)	46 (2.3)	43 (5.6)	45 (2.9)
Idaho	100 (0.2)	99 (0.4)	99 (0.6)	97 (2.1)	96 (1.7)	86 (1.1)	84 (1.5)	75 (2.6)	54 (4.2)	56 (4.8)
Indiana	99 (0.4)	99 (0.5)	97 (0.9)	95 (1.8)	93 (2.7)	83 (1.8)	80 (2.0)	65 (2.2)	50 (4.6)	50 (5.0)
Iowa	100 (0.2)	100 (0.2)	99 (0.3)	98 (1.8)	99 (0.9)	91 (1.1)	90 (1.8)	80 (1.9)	69 (5.1)	71 (4.9)
Kentucky	99 (0.4)	97 (1.6)	95 (0.9)	94 (1.5)	89 (2.9)	79 (1.6)	73 (2.2)	58 (2.5)	44 (3.2)	43 (4.2)
Louisiana	93 (1.5)	97 (0.9)	91 (1.2)	89 (2.6)	88 (4.4)	58 (2.9)	64 (3.1)	40 (2.4)	34 (4.3)	34 (4.2)
Maine	100 (0.4)	100 (0.3)	98 (0.9)	98 (2.1)	100 (0.8)	91 (1.1)	87 (1.9)	74 (1.7)	62 (4.9)	72 (5.0)
Maryland	97 (0.7)	96 (1.2)	93 (1.7)	89 (4.2)	89 (3.2)	77 (1.7)	69 (2.5)	51 (2.6)	37 (4.5)	45 (5.0)
Massachusetts	99 (0.6)	99 (0.5)	97 (0.9)	95 (2.0)	94 (2.2)	84 (1.5)	77 (2.9)	65 (2.6)	50 (6.1)	46 (5.0)
Michigan	98 (0.6)	98 (0.9)	94 (1.1)	94 (2.3)	92 (2.6)	77 (2.1)	77 (2.5)	60 (2.2)	50 (4.3)	50 (5.3)
Minnesota	100 (0.2)	100 (0.6)	99 (0.5)	96 (3.0)	99 (1.2)	90 (1.1)	87 (1.9)	74 (2.5)	58 (8.1)	69 (4.8)
Mississippi	93 (1.0)	96 (1.4)	88 (1.8)	86 (2.3)	82 (3.5)	54 (1.9)	58 (3.0)	35 (2.5)	31 (2.8)	29 (3.9)
Missouri	98 (0.6)	99 (0.6)	98 (0.5)	97 (1.8)	94 (2.6)	82 (1.8)	80 (1.9)	67 (2.7)	54 (4.7)	55 (4.5)
Nebraska	99 (0.3)	100 (0.1)	98 (0.6)	92 (4.6)	93 (3.0)	88 (1.2)	86 (2.1)	74 (2.7)	50 (6.9)	63 (5.2)
New Hampshire	100 (0.2)	100 (0.5)	99 (0.4)	97 (2.0)	97 (1.7)	90 (1.1)	88 (1.8)	73 (1.8)	67 (4.7)	68 (3.7)
New Jersey	99 (0.5)	99 (0.5)	96 (1.2)	94 (2.7)	90 (3.5)	83 (2.2)	79 (2.4)	62 (3.3)	54 (5.6)	50 (4.6)
New Mexico	98 (0.5)	98 (0.6)	95 (1.3)	93 (2.2)	94 (1.6)	77 (1.9)	69 (2.3)	49 (2.1)	42 (3.9)	42 (4.0)
New York	96 (0.9)	97 (1.4)	93 (1.7)	87 (4.7)	85 (3.2)	79 (1.8)	76 (3.3)	59 (3.1)	42 (5.6)	40 (5.5)
North Carolina	97 (0.6)	98 (0.7)	92 (1.4)	90 (2.1)	88 (3.5)	73 (1.5)	69 (2.1)	46 (2.2)	40 (3.1)	39 (4.6)
North Dakota	100 (0.1)	100 (0.4)	100 (0.2)	100 (1.0)	99 (1.8)	92 (0.9)	89 (2.0)	78 (2.8)	61 (7.5)	81 (4.5)
Ohio	98 (0.6)	99 (0.8)	96 (0.9)	92 (2.5)	92 (3.2)	80 (1.7)	76 (2.3)	64 (3.0)	44 (5.4)	52 (7.6)
Oklahoma	99 (0.4)	99 (0.5)	96 (0.9)	95 (2.3)	93 (4.7)	82 (1.9)	77 (2.2)	61 (2.7)	58 (4.6)	54 (6.0)
Pennsylvania	99 (0.6)	99 (0.6)	97 (1.0)	95 (1.8)	93 (3.1)	83 (1.5)	79 (2.3)	66 (2.3)	52 (4.6)	51 (6.0)
Rhode Island	99 (0.4)	99 (0.8)	97 (1.1)	91 (2.6)	88 (2.6)	80 (2.0)	78 (2.5)	59 (2.7)	40 (4.2)	37 (4.3)
South Carolina	98 (0.9)	99 (0.7)	94 (1.3)	94 (2.1)	91 (2.5)	70 (2.4)	73 (2.7)	47 (2.3)	47 (3.5)	47 (4.6)
Tennessee	96 (1.0)	98 (0.9)	95 (1.1)	93 (1.6)	91 (3.9)	69 (2.3)	69 (2.5)	51 (2.6)	44 (4.5)	41 (5.7)
Texas	98 (0.6)	98 (0.7)	96 (0.9)	93 (1.4)	90 (2.0)	79 (2.2)	75 (2.2)	55 (2.8)	48 (2.9)	41 (3.6)
Utah	99 (0.3)	100 (0.2)	96 (1.1)	97 (2.7)	97 (1.3)	83 (1.2)	84 (1.5)	63 (3.4)	55 (6.0)	57 (5.1)
Virginia	99 (0.4)	99 (0.6)	94 (0.9)	95 (1.8)	94 (1.5)	82 (1.5)	75 (2.4)	52 (2.6)	47 (4.2)	55 (4.2)
West Virginia	99 (0.3)	99 (0.4)	96 (1.1)	94 (1.4)	91 (2.4)	74 (2.5)	76 (2.3)	52 (2.0)	41 (2.7)	33 (4.4)
Wisconsin	99 (0.4)	99 (0.3)	98 (0.6)	95 (2.7)	94 (2.4)	87 (1.7)	87 (1.7)	75 (2.7)	55 (5.8)	57 (6.4)
Wyoming	99 (0.3)	100 (0.4)	99 (0.6)	97 (1.7)	98 (1.2)	85 (1.1)	84 (2.2)	73 (2.1)	61 (5.4)	64 (5.1)
TERRITORIES										
Guam	84 (1.9)	88 (2.7)	79 (2.5)	76 (4.4)	75 (2.1)	48 (3.1)	45 (3.6)	28 (2.3)	21 (3.4)	24 (2.8)
Virgin Islands	79 (3.1)	87 (2.6)	76 (3.5)	75 (4.2)	70 (2.6)	20 (2.2)	28 (4.5)	17 (2.1)	15 (2.8)	14 (2.3)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. »The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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773

TABLE A.11 | Anchor Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1992									
	Percentage of Students At or Above Level 300					Percentage of Students At or Above Level 350				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	30 (1.7)	19 (1.3)	9 (1.0)	6 (1.6)	8 (1.2)	1 (0.3)	0 (0.4)	0 (0.0)	0 (0.2)	0 (0.1)
Northeast	38 (5.0)	16 (4.4)	9 (2.4)	8 (5.4)	7 (3.3)	2 (1.2)	0 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)
Southeast	20 (2.0)	14 (2.1)	6 (1.0)	3 (2.0)	7 (2.3)	0 (0.3)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.4)
Central	33 (3.9)	21 (2.2)	12 (2.4)	*** (***)	9 (3.9)	1 (0.5)	1 (0.7)	0 (0.1)	*** (***)	0 (0.0)
West	29 (3.0)	22 (3.3)	8 (1.9)	5 (2.9)	8 (2.3)	2 (0.8)	0 (0.8)	0 (0.1)	0 (0.0)	0 (0.3)
STATES										
Alabama	17 (1.9)	11 (2.4)	5 (0.9)	2 (1.3)	2 (1.5)	0 (0.2)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)
Arizona	25 (1.8)	14 (2.0)	6 (1.6)	3 (1.3)	4 (1.7)	0 (0.3)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.5)
Arkansas	15 (1.8)	12 (1.7)	5 (0.9)	5 (1.4)	4 (1.8)	0 (0.3)	0 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)
California	26 (2.2)	15 (3.0)	7 (1.6)	3 (1.2)	5 (1.9)	1 (0.6)	0 (0.3)	0 (0.2)	0 (0.4)	0 (0.0)
Colorado	30 (1.5) >	20 (2.7)	9 (1.5)	4 (1.7)	6 (1.9)	1 (0.4)	0 (0.3)	0 (0.1)	0 (0.0)	0 (0.0)
Connecticut	38 (1.4)	19 (3.2)	11 (1.3)	4 (1.6)	8 (2.1)	1 (0.3)	0 (0.1)	0 (0.2)	0 (0.0)	0 (0.0)
Delaware	24 (2.1)	15 (3.1)	6 (0.9)	5 (2.6)	5 (2.3)	1 (0.4)	1 (0.7)	0 (0.1)	0 (0.5)	0 (0.0)
Dist. Columbia	9 (1.6)	2 (1.3)	1 (0.8)	2 (1.3)	2 (1.2)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Florida	21 (1.9)	15 (1.9)	7 (1.4)	5 (1.9)	5 (1.4)	1 (0.5)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.4)
Georgia	21 (2.4)	13 (2.0)	5 (1.1)	3 (1.2)	4 (1.6)	1 (0.6)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)
Hawaii	20 (1.7)	17 (2.2)	5 (0.9)	6 (2.5)	7 (1.5)	1 (0.4)	0 (0.3)	0 (0.3)	0 (0.0)	0 (0.2)
Idaho	27 (1.6)	22 (2.1)	12 (1.6)	6 (1.9)	7 (2.5)	1 (0.3)	0 (0.2)	0 (0.3)	0 (0.0)	0 (0.0)
Indiana	33 (2.1)	21 (2.1)	8 (1.2)	4 (1.5)	5 (2.0)	2 (0.7)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.3)
Iowa	40 (1.7) >	32 (2.3)	16 (1.5)	5 (2.5)	11 (2.9)	1 (0.6)	0 (0.4)	0 (0.2)	0 (0.0)	0 (0.0)
Kentucky	27 (2.7)	15 (1.9)	6 (1.0)	3 (1.0)	4 (2.1)	1 (0.7)	0 (0.3)	0 (0.1)	0 (0.0)	0 (0.0)
Louisiana	12 (1.9)	8 (1.5)	3 (0.8)	1 (0.7)	3 (1.5)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Maine	35 (2.4)	25 (2.3)	12 (1.8)	7 (2.9)	12 (3.2)	1 (0.5)	1 (0.6)	0 (0.4)	0 (0.0)	0 (0.2)
Maryland	30 (2.1)	18 (2.5)	7 (1.2)	6 (2.6)	5 (1.9)	2 (0.8)	1 (0.6)	0 (0.1)	0 (0.0)	0 (0.0)
Massachusetts	34 (2.0)	18 (2.6)	10 (1.4)	3 (1.9)	5 (3.1)	1 (0.4)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.0)
Michigan	27 (2.7)	18 (1.9)	9 (1.3)	4 (1.6)	7 (2.6)	1 (0.5)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.2)
Minnesota	38 (1.7)	30 (2.8)	16 (2.0)	6 (1.7)	17 (3.7)	2 (0.6)	1 (0.5)	0 (0.4)	0 (0.0)	0 (0.2)
Mississippi	10 (1.3)	7 (1.7)	3 (0.8)	1 (0.7)	3 (1.7)	0 (0.1)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Missouri	28 (2.5)	20 (2.1)	11 (1.5)	5 (1.9)	5 (2.4)	1 (0.4)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
Nebraska	35 (2.0)	25 (2.6)	13 (2.3)	4 (1.8)	7 (2.0)	1 (0.4)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
New Hampshire	35 (2.0)	22 (2.6)	11 (1.5)	4 (2.3)	9 (2.3)	1 (0.4)	0 (0.4)	0 (0.2)	0 (0.0)	0 (0.2)
New Jersey	34 (1.9)	22 (2.3)	9 (2.2)	5 (2.5)	9 (3.1)	2 (0.6)	0 (0.4)	0 (0.0)	0 (0.4)	0 (0.5)
New Mexico	19 (1.7)	11 (1.5)	4 (0.8)	4 (1.5)	3 (1.7)	0 (0.2)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
New York	28 (1.7)	19 (2.2)	10 (1.5)	4 (1.6)	6 (2.0)	2 (0.5)	1 (0.4)	0 (0.3)	1 (0.5)	0 (0.5)
North Carolina	20 (1.9)	13 (1.7)	4 (0.8)	2 (1.3)	4 (1.6)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.6)
North Dakota	35 (1.9)	26 (3.1)	15 (2.3)	8 (4.1)	15 (3.4)	1 (0.4)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.5)
Ohio	29 (2.2)	18 (2.0)	8 (1.3)	1 (1.0)	4 (2.5)	1 (0.5)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
Oklahoma	23 (1.8)	[illegible] (2.6)	8 (1.2)	6 (3.2)	8 (2.7)	1 (0.4)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)
Pennsylvania	31 (2.1)	2[illegible] (2.1)	11 (1.5)	6 (2.1)	8 (2.7)	1 (0.3)	0 (0.3)	0 (0.4)	0 (0.0)	0 (0.0)
Rhode Island	24 (1.7)	14 (2.3)	6 (1.4)	6 (1.7)	1 (1.1)	1 (0.5)	0 (0.2)	0 (0.1)	0 (0.6)	0 (0.0)
South Carolina	24 (2.2)	15 (2.0)	5 (0.8)	5 (1.4)	7 (2.4)	1 (0.4)	0 (0.1)	0 (0.0)	0 (0.2)	0 (0.0)
Tennessee	17 (2.1)	13 (1.9)	6 (0.9)	3 (1.2)	6 (2.0)	0 (0.4)	0 (0.1)	0 (0.1)	0 (0.0)	0 (0.0)
Texas	32 (2.4)	20 (2.3)	6 (1.5)	5 (1.2)	5 (1.9)	2 (0.8)	0 (0.2)	0 (0.2)	0 (0.3)	0 (0.2)
Utah	26 (1.4)	22 (2.4)	9 (1.7)	5 (2.8)	12 (2.5)	1 (0.3)	0 (0.3)	0 (0.0)	0 (0.6)	0 (0.6)
Virginia	32 (2.0)	16 (1.8)	7 (1.0)	4 (1.7)	5 (1.8)	2 (0.5)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.2)
West Virginia	16 (1.8)	13 (2.1)	4 (0.9)	3 (0.8)	2 (1.0)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Wisconsin	36 (1.9)	29 (2.1)	15 (1.7)	8 (2.5)	10 (2.6)	2 (0.6)	0 (0.7)	0 (0.1)	0 (0.3)	0 (0.4)
Wyoming	27 (1.4)	21 (2.3)	10 (1.8)	6 (2.5)	9 (2.9)	1 (0.2)	0 (0.6)	0 (0.0)	0 (0.0)	0 (0.3)
TERRITORIES										
Guam	10 (1.7)	6 (2.0)	3 (0.7)	3 (1.6)	3 (1.2)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.3)
Virgin Islands	2 (1.0)	1 (1.2)	0 (0.3)	0 (0.0)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent.

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TABLE A.11 | Anchor Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Percentage of Students At or Above Level 200					Percentage of Students At or Above Level 250				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	97 (0.5)	97 (1.4)	95 (1.3)	93 (2.1)	85 (3.4)	76 (1.8)	70 (1.8)	57 (2.4)	39 (3.6)	40 (3.4)
Northeast	98 (1.1)	96 (2.2)	98 (1.7)	*** (***)	*** (***)	85 (4.0)	71 (4.6)	62 (4.7)	*** (***)	*** (***)
Southeast	97 (1.5)	95 (1.9)	91 (4.0)	91 (4.3)	83 (6.0)	73 (3.0)	66 (3.5)	46 (7.1)	33 (6.2)	29 (7.4)
Central	97 (1.3)	98 (2.2)	98 (1.0)	*** (***)	*** (***)	76 (3.9)	70 (4.1)	68 (3.1)	*** (***)	*** (***)
West	97 (0.9)	97 (3.1)	94 (2.2)	93 (3.7)	84 (5.7)	73 (3.1)	74 (3.2)	52 (3.9)	44 (4.9)	43 (5.3)
STATES										
Alabama	96 (0.7)	97 (1.1)	92 (1.5)	89 (2.3)	90 (2.7)	63 (2.4)	64 (2.7)	46 (2.5)	37 (3.5)	38 (3.8)
Arizona	98 (0.6)	97 (0.9)	95 (1.2)	89 (2.7)	90 (2.3)	76 (1.9)	70 (2.7)	51 (2.7)	39 (3.3)	41 (3.0)
Arkansas	97 (0.9)	98 (0.7)	95 (1.0)	93 (1.7)	89 (3.0)	69 (1.7)	72 (3.0)	51 (2.0)	44 (2.8)	33 (3.8)
California	97 (1.0)	96 (1.4)	91 (1.6)	90 (2.6)	86 (2.0)	73 (2.1)	66 (2.9)	47 (2.7)	38 (4.0)	36 (3.4)
Colorado	99 (0.3)	99 (0.5)	96 (1.1)	90 (2.5)	91 (2.1)	82 (1.6)	77 (1.9)	55 (2.3)	42 (4.7)	52 (4.1)
Connecticut	99 (0.3)	97 (0.9)	94 (1.3)	93 (3.7)	92 (2.7)	84 (1.2)	74 (2.5)	59 (3.2)	40 (4.9)	49 (5.4)
Delaware	98 (0.8)	98 (0.8)	93 (1.5)	93 (3.4)	91 (3.2)	74 (1.8)	67 (3.7)	51 (2.4)	42 (4.8)	44 (5.5)
Dist. Columbia	87 (1.6)	91 (2.0)	79 (2.1)	81 (4.0)	77 (3.5)	34 (2.2)	33 (3.4)	20 (1.9)	20 (3.6)	14 (3.3)
Florida	96 (0.7)	97 (1.1)	92 (1.6)	85 (2.9)	89 (2.8)	68 (1.8)	66 (2.7)	44 (2.2)	38 (3.8)	40 (3.9)
Georgia	97 (0.6)	97 (0.9)	93 (1.3)	93 (1.6)	87 (2.7)	73 (2.1)	71 (2.7)	47 (2.6)	44 (3.6)	37 (4.4)
Hawaii	93 (1.0)	96 (1.1)	88 (1.5)	82 (4.5)	83 (2.1)	62 (1.8)	62 (2.9)	40 (1.7)	35 (4.7)	35 (2.9)
Idaho	99 (0.3)	100 (0.5)	98 (0.5)	97 (2.0)	94 (3.9)	85 (1.5)	82 (2.0)	66 (2.4)	51 (4.6)	55 (5.0)
Indiana	99 (0.4)	99 (0.6)	98 (0.8)	95 (2.5)	94 (2.5)	81 (1.9)	76 (2.2)	63 (2.2)	49 (5.5)	45 (5.1)
Iowa	100 (0.3)	100 (0.3)	99 (0.5)	98 (3.1)	98 (2.4)	86 (1.3)	86 (1.9)	75 (2.4)	59 (5.3)	69 (4.8)
Kentucky	97 (1.0)	99 (0.4)	97 (0.8)	91 (1.9)	93 (2.6)	72 (2.4)	74 (2.0)	54 (2.4)	37 (2.8)	37 (4.7)
Louisiana	94 (1.1)	97 (1.0)	91 (1.7)	85 (2.9)	88 (2.8)	55 (3.0)	57 (2.6)	40 (2.5)	31 (3.7)	32 (3.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	97 (0.6)	97 (0.9)	90 (1.6)	90 (3.2)	92 (2.0)	73 (1.9)	66 (2.9)	47 (2.2)	44 (3.6)	46 (4.1)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	98 (0.5)	99 (0.6)	95 (1.0)	95 (2.3)	95 (2.2)	76 (1.7)	73 (2.2)	59 (2.1)	46 (4.7)	49 (3.8)
Minnesota	99 (0.3)	100 (0.3)	97 (1.0)	95 (2.5)	96 (1.9)	86 (1.6)	88 (1.4)	69 (1.9)	54 (5.2)	62 (3.9)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	99 (0.4)	99 (0.5)	98 (0.8)	91 (4.4)	94 (2.3)	87 (1.3)	85 (2.2)	71 (2.6)	56 (6.7)	58 (5.2)
New Hampshire	100 (0.4)	100 (0.4)	98 (0.6)	98 (2.0)	95 (2.7)	87 (1.4)	83 (2.6)	66 (2.9)	58 (6.7)	54 (7.2)
New Jersey	98 (0.6)	98 (0.8)	97 (1.0)	96 (1.7)	94 (1.8)	81 (1.5)	74 (3.0)	61 (2.6)	49 (4.4)	51 (4.6)
New Mexico	99 (0.5)	98 (0.8)	96 (0.7)	93 (2.1)	87 (2.9)	76 (1.8)	68 (2.9)	47 (2.9)	35 (3.1)	31 (4.2)
New York	97 (0.6)	96 (1.7)	94 (1.6)	89 (2.9)	87 (3.1)	75 (1.4)	68 (3.3)	56 (3.0)	43 (4.7)	41 (4.6)
North Carolina	96 (0.8)	97 (1.7)	89 (1.4)	87 (2.4)	82 (3.6)	65 (2.8)	62 (3.0)	42 (1.9)	32 (3.1)	26 (3.8)
North Dakota	100 (0.2)	100 (0.1)	98 (0.8)	95 (3.3)	98 (1.0)	92 (1.4)	89 (2.0)	79 (3.1)	61 (5.6)	68 (6.5)
Ohio	98 (0.5)	99 (0.8)	96 (0.8)	94 (2.1)	90 (2.6)	76 (1.6)	76 (2.3)	58 (2.1)	46 (4.8)	38 (5.8)
Oklahoma	98 (0.5)	98 (1.1)	96 (1.0)	94 (2.5)	94 (4.0)	77 (1.7)	71 (2.7)	55 (2.2)	53 (4.7)	50 (5.3)
Pennsylvania	99 (0.5)	99 (0.9)	96 (1.2)	91 (3.5)	88 (4.2)	81 (2.4)	78 (2.4)	59 (2.6)	52 (4.9)	45 (6.5)
Rhode Island	99 (0.5)	97 (0.8)	94 (1.2)	90 (2.0)	86 (2.5)	76 (1.4)	69 (2.7)	54 (1.5)	36 (4.0)	32 (3.9)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	98 (0.6)	98 (0.9)	92 (1.5)	94 (1.6)	92 (2.3)	76 (1.7)	71 (3.1)	48 (2.7)	42 (3.0)	39 (3.6)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	99 (0.6)	98 (0.7)	95 (0.9)	92 (2.1)	94 (2.3)	79 (1.9)	71 (2.7)	52 (1.9)	39 (3.8)	42 (4.7)
West Virginia	98 (0.7)	98 (1.0)	95 (1.1)	93 (2.5)	91 (3.2)	73 (2.2)	66 (3.0)	52 (1.7)	36 (2.8)	36 (4.4)
Wisconsin	99 (0.5)	99 (0.4)	99 (0.5)	98 (1.4)	94 (3.2)	86 (1.7)	84 (2.0)	73 (2.0)	52 (6.0)	56 (4.9)
Wyoming	99 (0.3)	100 (0.3)	98 (0.6)	98 (1.3)	94 (2.0)	85 (1.3)	86 (1.7)	70 (1.9)	59 (5.6)	47 (5.3)
TERRITORIES										
Guam	86 (1.5)	90 (2.9)	75 (2.6)	68 (5.1)	74 (2.9)	44 (2.1)	50 (3.5)	26 (2.0)	20 (3.1)	21 (2.5)
Virgin Islands	76 (2.8)	83 (4.2)	75 (2.9)	64 (3.9)	73 (2.6)	15 (1.9)	21 (3.7)	15 (1.7)	9 (2.3)	12 (2.2)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. (xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE A.11 | Anchor Levels by Parents' Highest Level of Education (continued)

PUBLIC SCHOOLS	Grade 8 - 1990									
	Percentage of Students At or Above Level 300					Percentage of Students At or Above Level 350				
	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know	Graduated College	Some Education After High School	Graduated High School	Did Not Finish High School	I Don't Know
NATION	24 (2.2)	14 (2.1)	8 (1.3)	3 (1.1)	5 (1.6)	1 (0.4)	1 (0.7)	0 (0.2)	0 (0.0)	0 (0.0)
Northeast	31 (5.6)	16 (5.6)	11 (2.1)	*** (***)	*** (***)	1 (0.7)	1 (1.8)	0 (0.5)	*** (***)	*** (***)
Southeast	23 (4.1)	10 (4.0)	5 (2.1)	1 (1.2)	2 (2.0)	1 (0.7)	0 (0.0)	0 (0.8)	0 (0.0)	0 (0.0)
Central	18 (3.2)	17 (4.0)	11 (2.9)	*** (***)	*** (***)	0 (0.5)	1 (1.8)	0 (0.0)	*** (***)	*** (***)
West	23 (3.7)	15 (2.9)	5 (2.3)	5 (2.9)	5 (2.6)	1 (0.5)	2 (1.1)	0 (0.2)	0 (0.0)	0 (0.0)
STATES										
Alabama	15 (1.3)	9 (1.5)	5 (1.0)	1 (1.2)	3 (1.3)	1 (0.4)	0 (0.0)	0 (0.1)	0 (0.1)	0 (0.0)
Arizona	20 (1.8)	13 (2.0)	6 (1.3)	3 (1.3)	4 (1.6)	1 (0.3)	0 (0.4)	0 (0.2)	0 (0.0)	0 (0.2)
Arkansas	17 (1.6)	10 (1.5)	4 (0.8)	2 (0.7)	3 (1.0)	0 (0.2)	0 (0.4)	0 (0.0)	0 (0.1)	0 (0.0)
California	21 (2.1)	13 (2.0)	4 (1.3)	3 (1.5)	5 (1.3)	1 (0.4)	0 (0.5)	0 (0.0)	0 (0.0)	0 (0.4)
Colorado	24 (1.3)	15 (1.8)	7 (1.7)	3 (1.3)	5 (1.5)	1 (0.3)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Connecticut	33 (1.4)	17 (1.6)	9 (1.4)	2 (1.5)	6 (2.2)	1 (0.4)	0 (0.5)	0 (0.2)	0 (0.0)	0 (0.0)
Delaware	25 (1.8)	12 (2.0)	5 (0.7)	1 (1.1)	3 (1.8)	1 (0.9)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.0)
Dist. Columbia	6 (1.2)	2 (1.0)	1 (0.3)	0 (0.0)	1 (1.0)	1 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Florida	19 (1.6)	13 (2.0)	6 (1.1)	2 (1.0)	5 (1.5)	0 (0.2)	0 (0.1)	0 (0.2)	0 (0.0)	0 (0.4)
Georgia	23 (2.3)	15 (1.6)	6 (1.0)	3 (1.4)	6 (2.0)	1 (0.8)	1 (0.8)	0 (0.3)	0 (0.0)	0 (0.2)
Hawaii	18 (1.6)	13 (1.9)	5 (0.9)	6 (2.5)	5 (1.3)	1 (0.4)	0 (0.3)	0 (0.1)	0 (0.3)	0 (0.0)
Idaho	23 (2.1)	17 (2.0)	9 (1.8)	4 (1.8)	7 (3.1)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Indiana	25 (2.3)	18 (1.6)	9 (1.5)	7 (2.4)	4 (1.9)	1 (0.6)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.8)
Iowa	32 (2.3)	27 (2.4)	15 (1.9)	6 (2.6)	16 (3.5)	1 (0.4)	0 (0.3)	0 (0.3)	0 (0.0)	0 (0.9)
Kentucky	17 (1.7)	16 (2.3)	6 (0.9)	2 (0.9)	3 (1.6)	1 (0.5)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)
Louisiana	9 (1.5)	7 (1.1)	2 (0.7)	2 (0.7)	3 (1.1)	0 (0.3)	0 (0.1)	0 (0.0)	0 (0.0)	0 (0.2)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	27 (1.9)	12 (2.0)	6 (1.0)	5 (1.7)	5 (1.6)	1 (0.4)	0 (0.3)	0 (0.0)	0 (0.2)	0 (0.3)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	24 (1.8)	16 (2.4)	7 (1.1)	4 (1.9)	7 (1.9)	1 (0.5)	1 (0.4)	0 (0.2)	0 (0.0)	0 (0.0)
Minnesota	32 (1.6)	25 (2.2)	11 (1.6)	6 (3.4)	10 (3.4)	2 (0.6)	1 (0.7)	0 (0.1)	0 (0.0)	0 (0.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	33 (1.9)	22 (2.2)	14 (2.0)	5 (2.4)	10 (2.7)	2 (0.7)	1 (0.5)	0 (0.2)	0 (0.0)	0 (0.0)
New Hampshire	29 (1.9)	18 (2.9)	10 (1.5)	4 (1.6)	8 (2.7)	1 (0.5)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
New Jersey	32 (1.8)	17 (2.5)	11 (1.6)	4 (1.8)	6 (2.0)	1 (0.4)	0 (0.5)	0 (0.2)	0 (0.0)	0 (0.3)
New Mexico	21 (2.2)	9 (1.5)	3 (1.0)	3 (1.4)	1 (1.0)	1 (0.5)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
New York	24 (1.8)	14 (2.6)	6 (1.2)	2 (1.7)	8 (2.6)	1 (0.6)	1 (0.6)	0 (0.3)	0 (0.5)	0 (0.6)
North Carolina	16 (1.7)	8 (1.3)	4 (0.8)	2 (1.1)	2 (1.4)	0 (0.2)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.0)
North Dakota	34 (2.4)	27 (4.5)	16 (3.5)	6 (4.7)	8 (4.5)	2 (0.8)	0 (0.4)	0 (0.5)	0 (0.0)	0 (0.0)
Ohio	23 (2.1)	14 (1.8)	8 (1.1)	4 (1.5)	2 (1.6)	1 (0.3)	0 (0.2)	0 (0.2)	0 (0.0)	0 (0.0)
Oklahoma	21 (2.1)	12 (1.6)	5 (1.0)	4 (2.0)	6 (2.8)	0 (0.4)	0 (0.2)	0 (0.1)	0 (0.0)	0 (0.0)
Pennsylvania	30 (2.3)	15 (2.0)	7 (1.7)	2 (1.2)	6 (2.5)	1 (0.4)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
Rhode Island	23 (1.8)	14 (2.6)	7 (1.3)	3 (1.4)	4 (1.3)	1 (0.4)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	23 (1.8)	14 (2.0)	5 (1.2)	3 (1.1)	4 (1.8)	1 (0.5)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.2)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	30 (2.6)	15 (2.8)	5 (0.9)	3 (1.0)	8 (1.8)	3 (0.9)	0 (0.4)	0 (0.2)	0 (0.0)	0 (0.4)
West Virginia	18 (1.8)	12 (1.8)	4 (1.0)	1 (1.2)	4 (2.1)	0 (0.2)	0 (0.4)	0 (0.1)	0 (0.0)	0 (0.0)
Wisconsin	34 (2.3)	21 (2.2)	16 (1.7)	5 (2.2)	9 (2.4)	1 (0.5)	1 (0.6)	0 (0.2)	0 (0.0)	0 (0.0)
Wyoming	26 (1.5)	17 (1.8)	9 (1.2)	3 (1.8)	4 (1.7)	0 (0.3)	0 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)
TERRITORIES										
Guam	6 (1.3)	6 (2.3)	2 (0.7)	1 (0.6)	2 (0.9)	0 (0.1)	0 (0.7)	0 (0.0)	0 (0.3)	0 (0.2)
Virgin Islands	1 (0.9)	1 (0.8)	1 (0.4)	0 (0.0)	0 (0.1)	0 (0.0)	0 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)

When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. (xxx) Did not participate in the 1990 Trial State Assessment.

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Anchor-Level Results by Type of School

TABLE A.12 Average Mathematics Proficiency and Anchor Levels by Type of School, Grades 4, 8, and 12

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grade 4							
Public Schools	1992	87 (1.0)	217 (0.8)>	71 (1.0)>	16 (0.9)>	0 (0.1)	0 (0.0)
	1990	89 (1.4)	212 (1.1)	66 (1.5)	11 (1.2)	0 (0.1)	0 (0.0)
Catholic Schools	1992	8 (0.7)	227 (1.2)>	84 (1.4)	20 (1.5)	0 (0.2)	0 (0.0)
	1990	7 (1.2)	219 (3.0)	76 (4.2)	14 (2.4)	0 (0.1)	0 (0.0)
Other Private Schools	1992	4 (0.9)	226 (3.7)	80 (4.8)	20 (3.3)	0 (0.3)	0 (0.0)
	1990	4 (0.9)	232 (3.6)!	87 (4.0)	27 (4.9)	0 (0.1)	0 (0.0)
Grade 8							
Public Schools	1992	89 (0.9)	266 (1.0)>	96 (0.4)	67 (1.1)	18 (0.9)>	1 (0.2)
	1990	92 (1.3)	262 (1.4)	95 (0.7)	64 (1.4)	14 (1.1)	0 (0.3)
Catholic Schools	1992	6 (0.7)	277 (2.1)	99 (0.5)	80 (2.4)	25 (2.2)>	0 (0.2)
	1990	5 (1.0)	271 (3.5)	99 (0.6)	78 (4.8)	15 (2.5)	0 (0.3)
Other Private Schools	1992	5 (0.7)	284 (4.1)>	99 (0.8)	82 (3.4)	35 (4.9)>	2 (0.9)
	1990	3 (0.8)	272 (3.1)!	98 (1.8)	77 (4.5)	18 (4.1)	0 (0.0)
Grade 12							
Public Schools	1992	87 (1.2)	297 (1.0)	100 (0.1)	91 (0.6)>	47 (1.3)	6 (0.5)
	1990	91 (2.0)	294 (1.2)	100 (0.2)	88 (1.0)	44 (1.5)	5 (0.9)
Catholic Schools	1992	8 (1.3)	310 (2.5)	100 (0.0)	97 (1.0)	65 (3.8)	8 (1.5)
	1990	6 (1.6)	301 (4.6)!	100 (0.2)	93 (2.2)	53 (6.6)	6 (1.5)
Other Private Schools	1992	4 (1.0)	319 (4.3)!>	100 (0.0)	97 (1.1)	73 (5.0)>	19 (3.0)>
	1990	4 (1.4)	298 (5.1)!	100 (0.0)	95 (1.9)	49 (7.5)	5 (2.9)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. ! Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

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Anchor-Level Results by School Performance

TABLE A.13 Average Mathematics Proficiency and Anchor Levels for the Top One-Third of the Schools and the Bottom One-Third of the Schools, Grades 4, 8, and 12

	Assessment Years	Percent of Students	Average Proficiency	Percentage of Students At or Above			
				Level 200	Level 250	Level 300	Level 350
Grades 4							
Top One-Third Schools	1992	34 (2.8)	237 (0.8)>	92 (0.8)>	31 (1.3)>	1 (0.3)	0 (0.0)
	1990	34 (3.9)	229 (1.4)	87 (1.2)	23 (2.6)	0 (0.3)	0 (0.0)
Bottom One-Third Schools	1992	29 (2.1)	196 (1.2)	46 (2.0)	3 (0.5)	0 (0.0)	0 (0.0)
	1990	30 (3.4)	194 (1.7)	42 (2.5)	4 (0.8)	0 (0.0)	0 (0.0)
Grades 8							
Top One-Third Schools	1992	29 (3.1)	289 (1.3)>	100 (0.3)	90 (1.1)>	37 (1.8)>	2 (0.5)
	1990	30 (4.4)	280 (1.2)	99 (0.5)	83 (1.5)	27 (2.6)	1 (0.8)
Bottom One-Third Schools	1992	32 (1.8)	245 (0.9)	92 (1.1)	43 (1.3)	5 (0.6)	0 (0.1)
	1990	34 (3.9)	244 (1.8)	89 (1.7)	43 (1.8)	6 (0.9)	0 (0.1)
Grades 12							
Top One-Third Schools	1992	35 (3.1)	316 (1.1)>	100 (0.1)	98 (0.4)>	71 (1.5)>	13 (1.0)
	1990	34 (5.0)	310 (1.2)	100 (0.1)	95 (0.9)	63 (1.6)	11 (1.9)
Bottom One-Third Schools	1992	27 (2.2)	279 (1.0)>	100 (0.3)	81 (1.3)	26 (1.6)	1 (0.3)
	1990	26 (3.3)	274 (1.5)	99 (0.6)	78 (2.1)	21 (1.9)	1 (0.3)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 95 percent confidence level. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details). When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages 0.5 percent or less were rounded to 0 percent.

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TABLE A.14 | Average Mathematics Proficiency and Anchor Levels for the Top One-Third of the Schools

PUBLIC SCHOOLS	Grade 4 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	44 (2.9)	234 (0.9)	89 (1.0)	28 (1.4)	1 (0.2)	0 (0.0)
Northeast	59 (6.7)	236 (2.1)	89 (1.4)	32 (3.8)	1 (0.6)	0 (0.0)
Southeast	21 (5.2)	234 (2.8)!	91 (2.5)!	28 (3.8)!	1 (0.9)!	0 (0.0)!
Central	56 (8.3)	233 (1.2)	90 (1.9)	27 (2.1)	0 (0.1)	0 (0.0)
West	43 (4.4)	232 (1.9)	87 (2.4)	26 (3.4)	1 (0.8)	0 (0.0)
STATES						
Alabama	34 (5.2)	225 (1.8)	81 (2.0)	20 (2.5)	0 (0.1)	0 (0.0)
Arizona	35 (2.9)	230 (1.0)	87 (1.3)	23 (1.2)	0 (0.2)	0 (0.0)
Arkansas	33 (3.7)	222 (1.5)	78 (2.0)	15 (2.0)	0 (0.1)	0 (0.0)
California	34 (4.8)	228 (1.5)	83 (1.6)	23 (2.1)	0 (0.3)	0 (0.0)
Colorado	35 (4.0)	234 (1.0)	89 (1.4)	28 (1.2)	1 (0.3)	0 (0.0)
Connecticut	36 (3.9)	242 (1.1)	94 (0.9)	39 (2.4)	1 (0.6)	0 (0.0)
Delaware	31 (0.2)	228 (1.9)	82 (2.5)	25 (1.9)	0 (0.2)	0 (0.0)
Dist. Columbia	30 (0.3)	211 (0.9)	60 (2.0)	15 (0.9)	1 (0.4)	0 (0.0)
Florida	34 (4.4)	229 (1.3)	86 (1.3)	23 (2.2)	0 (0.4)	0 (0.0)
Georgia	32 (4.2)	234 (1.2)	89 (1.6)	29 (2.0)	0 (0.3)	0 (0.0)
Hawaii	32 (4.1)	229 (1.1)	83 (1.3)	25 (1.8)	0 (0.3)	0 (0.0)
Idaho	33 (4.4)	231 (1.1)	89 (1.4)	22 (1.7)	0 (0.2)	0 (0.0)
Indiana	34 (4.5)	232 (0.7)	88 (1.3)	25 (1.8)	0 (0.2)	0 (0.0)
Iowa	34 (4.7)	240 (0.8)	93 (0.8)	37 (1.6)	1 (0.4)	0 (0.0)
Kentucky	35 (3.5)	226 (1.0)	82 (1.7)	22 (1.8)	0 (0.2)	0 (0.0)
Louisiana	36 (4.1)	221 (1.4)	78 (1.8)	14 (1.7)	0 (0.2)	0 (0.0)
Maine	31 (4.8)	241 (1.3)	93 (1.4)	38 (2.2)	1 (0.6)	0 (0.1)
Maryland	32 (3.5)	236 (1.3)	88 (1.0)	33 (2.3)	1 (0.5)	0 (0.0)
Massachusetts	37 (4.4)	241 (1.2)	94 (0.9)	37 (2.3)	1 (0.4)	0 (0.0)
Michigan	34 (5.2)	236 (1.4)	91 (1.3)	32 (2.4)	1 (0.4)	0 (0.0)
Minnesota	31 (4.1)	239 (0.9)	92 (0.9)	36 (1.7)	1 (0.3)	0 (0.0)
Mississippi	31 (2.9)	218 (1.1)	73 (2.1)	13 (1.5)	0 (0.2)	0 (0.0)
Missouri	38 (4.6)	234 (1.1)	89 (1.0)	29 (2.0)	0 (0.3)	0 (0.0)
Nebraska	34 (4.8)	238 (1.0)	91 (1.3)	34 (2.0)	1 (0.5)	0 (0.0)
New Hampshire	33 (5.0)	241 (1.4)	93 (1.0)	37 (2.4)	1 (0.4)	0 (0.0)
New Jersey	37 (4.5)	243 (1.3)	94 (1.1)	39 (2.7)	1 (0.4)	0 (0.0)
New Mexico	34 (5.2)	227 (1.5)	84 (1.8)	21 (2.5)	0 (0.2)	0 (0.0)
New York	32 (3.6)	235 (1.2)	89 (1.8)	29 (2.4)	1 (0.4)	0 (0.0)
North Carolina	34 (4.1)	227 (1.3)	82 (1.8)	21 (1.9)	1 (0.3)	0 (0.0)
North Dakota	34 (4.4)	237 (0.9)	92 (1.5)	31 (2.1)	0 (0.3)	0 (0.0)
Ohio	34 (3.9)	234 (1.1)	89 (1.1)	28 (2.5)	1 (0.3)	0 (0.0)
Oklahoma	37 (4.5)	230 (1.1)	87 (1.8)	22 (1.8)	0 (0.2)	0 (0.0)
Pennsylvania	33 (4.5)	240 (1.2)	93 (1.3)	35 (2.7)	1 (0.4)	0 (0.0)
Rhode Island	35 (4.9)	231 (1.4)	88 (1.6)	23 (2.1)	0 (0.3)	0 (0.0)
South Carolina	36 (4.2)	226 (1.1)	80 (1.2)	22 (1.6)	0 (0.2)	0 (0.0)
Tennessee	34 (4.1)	225 (1.3)	81 (1.8)	19 (1.6)	0 (0.1)	0 (0.0)
Texas	37 (4.7)	231 (1.7)	87 (1.5)	25 (2.5)	0 (0.2)	0 (0.0)
Utah	32 (4.1)	235 (0.9)	90 (1.0)	30 (1.7)	1 (0.4)	0 (0.0)
Virginia	35 (4.2)	239 (1.6)	90 (1.3)	35 (2.7)	1 (0.8)	0 (0.0)
West Virginia	35 (4.0)	225 (1.5)	80 (2.0)	20 (1.9)	0 (0.3)	0 (0.0)
Wisconsin	34 (5.0)	238 (1.2)	92 (1.4)	35 (2.2)	1 (0.5)	0 (0.0)
Wyoming	30 (4.0)	234 (0.9)	92 (1.1)	27 (2.4)	0 (0.3)	0 (0.0)
TERRITORY						
Guam	33 (0.1)	202 (1.5)	53 (2.2)	8 (1.3)	0 (0.0)	0 (0.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE A.14 | Average Mathematics Proficiency and Anchor Levels for the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	39 (4.1)	284 (1.2)	99 (0.2)	85 (1.2)	31 (1.8)	1 (0.4)
Northeast	45 (9.0)	285 (3.5)	100 (0.5)	85 (3.1)	34 (2.6)	2 (0.9)
Southeast	9 (4.4)	284 (1.6)!	99 (0.6)!	87 (3.5)!	31 (3.1)!	0 (1.0)!
Central	59 (8.2)	284 (1.5)	100 (0.3)	87 (0.9)	30 (3.2)	1 (0.5)
West	45 (9.6)	282 (2.0)!	99 (0.5)!	83 (2.3)!	30 (3.2)!	2 (0.9)!
STATES						
Alabama	32 (4.6)	269 (1.8)	97 (0.7)	71 (2.0)	18 (1.9)	0 (0.2)
Arizona	37 (4.5)	279 (1.5) >	100 (0.2)	84 (1.6)	23 (2.2)	0 (0.4)
Arkansas	32 (3.9)	270 (1.1)	99 (0.3)	75 (1.9)	15 (1.2)	0 (0.3)
California	34 (4.4)	281 (1.9) >	99 (0.7)	82 (1.9)	29 (2.2)	1 (0.7)
Colorado	34 (4.1)	286 (1.3) >	100 (0.3)	89 (1.4)	32 (1.9) >	1 (0.5)
Connecticut	34 (3.1)	293 (0.9) >	100 (0.1)	92 (1.2)	43 (1.7)	1 (0.4)
Delaware	29 (0.2) »	273 (1.8)	98 (0.8)	74 (2.1)	22 (2.3)	1 (0.5)
Dist. Columbia	32 (0.6) »	255 (1.8)	92 (1.6)	56 (1.8)	12 (2.6)	1 (0.6)
Florida	36 (4.1)	276 (1.4) >	98 (0.5)	80 (1.6)	24 (2.1)	1 (0.3)
Georgia	34 (4.6)	275 (1.3)	99 (0.4)	79 (1.3)	22 (1.7)	1 (0.6)
Hawaii	37 (0.3) «	270 (1.2) »	98 (0.7) >	69 (1.5)	21 (1.7)	1 (0.5)
Idaho	29 (3.9)	283 (1.0) >	100 (0.2)	88 (1.5)	29 (2.3)	1 (0.4)
Indiana	34 (5.3)	283 (1.3)	100 (0.3)	86 (1.5)	29 (1.6)	1 (0.7)
Iowa	32 (4.6)	293 (1.0)	100 (0.2)	94 (1.0)	41 (2.2)	2 (0.7)
Kentucky	33 (4.7)	275 (1.4) >	99 (0.6)	78 (1.6)	23 (2.2)	1 (0.5)
Louisiana	33 (4.9)	268 (1.9) >	99 (0.6)	72 (2.3)	15 (1.9)	0 (0.2)
Maine	30 (4.6)	289 (1.6)	100 (0.2)	93 (1.5)	33 (2.5)	1 (0.5)
Maryland	32 (4.0)	286 (1.5)	99 (0.4)	85 (1.4)	36 (2.4)	2 (0.8)
Massachusetts	35 (4.3)	289 (1.5)	100 (0.2)	90 (1.4)	38 (2.7)	1 (0.5)
Michigan	35 (5.1)	285 (1.7)	100 (0.2)	88 (1.2)	32 (2.6)	1 (0.4)
Minnesota	35 (4.8)	291 (1.0) »	100 (0.2)	90 (1.1)	40 (1.5) >	2 (0.5)
Mississippi	34 (4.8)	262 (1.1)	97 (0.7)	65 (1.9)	11 (1.3)	0 (0.1)
Missouri	31 (4.6)	282 (0.8)	99 (0.4)	84 (1.6)	29 (1.9)	1 (0.5)
Nebraska	27 (4.7)	291 (1.2)	100 (0.2)	92 (1.3)	39 (3.0)	1 (0.5)
New Hampshire	29 (4.3)	287 (1.5)	99 (0.3)	89 (1.4)	35 (2.5)	2 (0.5)
New Jersey	30 (3.4)	293 (1.2) >	100 (0.0)	92 (1.3)	44 (2.5)	2 (0.5)
New Mexico	31 (4.0)	273 (1.1)	99 (0.4)	76 (1.7)	18 (1.6)	0 (0.3)
New York	30 (3.8)	288 (1.3) »	100 (0.2)	89 (1.4)	34 (2.1) >	2 (0.6)
North Carolina	34 (4.8)	270 (1.2) »	98 (0.5)	73 (1.6)	18 (1.9)	0 (0.2)
North Dakota	26 (4.0) <	293 (1.5)	100 (0.2)	93 (1.4)	42 (2.0)	1 (0.[illegible])
Ohio	34 (5.2)	284 (1.6) >	100 (0.2)	87 (1.8)	30 (2.9)	1 (0.6)
Oklahoma	32 (4.5)	280 (1.1)	99 (0.5)	86 (1.4)	26 (2.3)	1 (0.4)
Pennsylvania	36 (4.5)	286 (1.3)	100 (0.3)	87 (1.3)	33 (2.0)	1 (0.4)
Rhode Island	31 (0.2)	280 (1.0)	100 (0.3)	83 (1.9)	26 (1.9)	1 (0.7)
South Carolina	33 (3.5)	276 (1.2)	99 (0.4)	76 (1.7)	25 (1.8)	1 (0.4)
Tennessee	33 (4.3)	272 (1.4)	99 (0.5)	76 (1.9)	20 (1.6)	0 (0.4)
Texas	36 (4.2)	282 (1.5) »	99 (0.4)	82 (1.4)	30 (2.1) >	2 (0.8)
Utah	32 (3.9)	283 (0.9)	100 (0.3)	87 (1.4)	28 (1.7)	1 (0.4)
Virginia	33 (4.3)	285 (1.5)	100 (0.3)	86 (1.5)	34 (1.9)	2 (0.5)
West Virginia	32 (4.9)	269 (1.0)	99 (0.6)	73 (2.3)	14 (1.2)	0 (0.1)
Wisconsin	39 (5.0)	289 (1.1)	100 (0.2)	91 (1.7)	37 (2.0)	1 (0.5)
Wyoming	28 (3.1)	283 (1.4)	100 (0.3)	87 (1.6)	28 (1.9)	1 (0.4)
TERRITORIES						
Guam	13 (0.2) «	244 (3.2)	88 (2.5)	43 (5.0)	7 (1.7)	0 (0.3)
Virgin Islands	28 (0.2) «	232 (1.3)	86 (1.9)	27 (2.3)	1 (0.8)	0 (0.0)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. (xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE A.14 | Average Mathematics Proficiency and Anchor Levels for the Top One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	27 (4.8)	281 (1.5)	99 (0.5)	82 (1.6)	28 (3.1)	2 (0.9)
Northeast	50(11.9)	282 (3.6)!	100 (0.6)!	85 (3.5)!	31 (5.5)!	1 (0.9)!
Southeast	13 (5.9)	281 (5.6)!	95 (3.4)!	77 (6.9)!	36 (6.9)!	2 (1.4)!
Central	35(12.2)	279 (1.8)!	100 (0.4)!	84 (2.0)!	21 (3.2)!	1 (1.0)!
West	19 (8.7)	281 (2.4)!	98 (1.2)!	80 (3.3)!	31 (7.0)!	3 (2.2)!
STATES						
Alabama	33 (4.2)	268 (1.2)	98 (0.4)	73 (1.5)	15 (1.4)	1 (0.3)
Arizona	36 (3.2)	275 (1.1)	99 (0.4)	80 (1.9)	20 (1.6)	1 (0.4)
Arkansas	32 (3.7)	270 (0.9)	99 (0.3)	75 (1.8)	16 (1.3)	0 (0.3)
California	32 (4.1)	275 (1.7)	98 (0.6)	78 (1.9)	22 (2.2)	1 (0.5)
Colorado	33 (3.5)	281 (0.9)	100 (0.2)	86 (1.0)	26 (1.5)	1 (0.3)
Connecticut	32 (2.8)	289 (1.0)	100 (0.2)	90 (1.4)	38 (1.6)	2 (0.6)
Delaware	26 (0.1)	276 (2.1)	98 (0.9)	75 (2.7)	27 (2.0)	1 (0.7)
Dist. Columbia	29 (0.2)	253 (2.1)	94 (1.0)	50 (2.9)	9 (1.6)	1 (0.7)
Florida	33 (3.9)	272 (1.3)	98 (0.8)	75 (1.7)	20 (1.4)	1 (0.3)
Georgia	33 (4.0)	278 (1.7)	99 (0.4)	79 (1.7)	26 (2.1)	2 (1.0)
Hawaii	45 (0.3)	263 (1.2)	95 (0.7)	64 (1.7)	17 (1.2)	1 (0.3)
Idaho	37 (0.8)	280 (1.3)	100 (0.3)	86 (1.7)	25 (2.3)	0 (0.3)
Indiana	34 (5.2)	280 (1.3)	100 (0.2)	84 (1.2)	26 (2.0)	1 (0.6)
Iowa	29 (4.8)	290 (1.5)	100 (0.2)	91 (1.0)	37 (2.6)	2 (0.6)
Kentucky	32 (4.5)	270 (1.1)	99 (0.4)	72 (2.0)	17 (1.6)	1 (0.4)
Louisiana	33 (4.0)	262 (1.8)	97 (0.7)	66 (2.5)	11 (1.5)	0 (0.3)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	33 (4.0)	283 (1.6)	99 (0.3)	84 (1.5)	31 (2.5)	2 (0.5)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	32 (4.3)	282 (1.2)	100 (0.2)	84 (1.3)	27 (1.9)	2 (0.6)
Minnesota	32 (4.2)	286 (0.8)	100 (0.3)	88 (1.1)	33 (1.9)	2 (0.7)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	33 (3.4)	290 (1.1)	100 (0.1)	92 (1.1)	37 (2.4)	2 (0.8)
New Hampshire	31 (1.0)	286 (1.3)	100 (0.2)	89 (1.5)	32 (2.4)	1 (0.5)
New Jersey	32 (3.9)	290 (1.1)	100 (0.2)	90 (1.2)	38 (1.9)	2 (0.7)
New Mexico	36 (0.7)	271 (1.4)	99 (0.5)	76 (1.9)	18 (2.0)	1 (0.5)
New York	29 (3.5)	281 (1.2)	100 (0.3)	84 (1.8)	26 (1.4)	2 (0.8)
North Carolina	33 (4.2)	265 (1.2)	97 (0.8)	68 (1.6)	16 (1.4)	0 (0.1)
North Dakota	42 (2.9)	291 (1.3)	100 (0.0)	93 (1.3)	36 (2.7)	2 (0.8)
Ohio	33 (4.2)	278 (1.1)	99 (0.3)	83 (1.3)	23 (1.5)	1 (0.3)
Oklahoma	33 (4.0)	277 (1.2)	99 (0.5)	81 (1.3)	24 (1.9)	1 (0.4)
Pennsylvania	32 (4.8)	284 (1.5)	100 (0.3)	87 (1.6)	30 (2.0)	1 (0.5)
Rhode Island	30 (0.6)	278 (1.2)	99 (0.5)	81 (1.6)	26 (1.4)	1 (0.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	34 (4.5)	275 (1.3)	99 (0.5)	79 (1.5)	21 (2.1)	1 (0.5)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	36 (3.7)	286 (2.3)	100 (0.2)	85 (1.5)	34 (2.9)	3 (1.0)
West Virginia	35 (5.1)	267 (1.1)	98 (0.5)	70 (1.7)	15 (1.6)	0 (0.2)
Wisconsin	34 (4.5)	288 (1.2)	100 (0.2)	89 (1.1)	35 (2.5)	1 (0.5)
Wyoming	23 (0.5)	282 (1.1)	100 (0.2)	87 (1.6)	27 (2.9)	0 (0.3)
TERRITORIES						
Guam	15 (0.2)	237 (2.1)	85 (3.6)	34 (1.4)	4 (1.1)	0 (0.0)
Virgin Islands	29 (0.2)	231 (1.3)	84 (2.3)	25 (1.5)	2 (1.1)	0 (0.1)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE A.15 | Average Mathematics Proficiency and Anchor Levels for the Bottom One-Third of the Schools

PUBLIC SCHOOLS	Grade 4 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	23 (1.6)	192 (1.0)	40 (2.0)	2 (0.4)	0 (0.0)	0 (0.0)
Northeast	24 (3.8)	194 (2.1)	43 (4.8)	4 (1.2)	0 (0.0)	0 (0.0)
Southeast	38 (4.3)	192 (1.9)	40 (3.3)	2 (0.6)	0 (0.0)	0 (0.0)
Central	12 (3.3)	190 (3.2)!	38 (4.3)!	1 (0.6)!	0 (0.0)!	0 (0.0)!
West	20 (2.6)	190 (1.3)	38 (1.7)	2 (0.3)	0 (0.0)	0 (0.0)
STATES						
Alabama	32 (4.5)	188 (1.1)	34 (2.0)	1 (0.4)	0 (0.0)	0 (0.0)
Arizona	35 (3.7)	197 (1.6)	46 (2.5)	3 (0.8)	0 (0.0)	0 (0.0)
Arkansas	32 (3.7)	194 (1.5)	43 (2.3)	3 (0.7)	0 (0.0)	0 (0.0)
California	31 (3.9)	183 (2.2)	33 (2.8)	2 (0.5)	0 (0.0)	0 (0.0)
Colorado	32 (3.3)	205 (1.0)	57 (2.1)	6 (0.9)	0 (0.0)	0 (0.0)
Connecticut	30 (3.2)	203 (2.4)	54 (3.5)	7 (1.2)	0 (0.1)	0 (0.0)
Delaware	40 (0.3)	207 (1.4)	58 (2.6)	9 (1.3)	0 (0.2)	0 (0.0)
Dist. Columbia	38 (0.3)	175 (0.8)	18 (1.4)	0 (0.1)	0 (0.0)	0 (0.0)
Florida	33 (4.0)	194 (1.9)	45 (2.5)	3 (0.7)	0 (0.1)	0 (0.0)
Georgia	36 (3.4)	196 (1.2)	45 (2.0)	4 (0.7)	0 (0.1)	0 (0.0)
Hawaii	34 (4.6)	197 (1.4)	48 (2.2)	5 (1.0)	0 (0.1)	0 (0.0)
Idaho	34 (5.2)	211 (1.2)	65 (2.6)	8 (1.2)	0 (0.0)	0 (0.0)
Indiana	33 (4.6)	206 (1.2)	59 (2.2)	5 (1.0)	0 (0.0)	0 (0.0)
Iowa	33 (4.1)	217 (1.2)	73 (1.9)	13 (1.4)	0 (0.0)	0 (0.0)
Kentucky	32 (3.6)	201 (0.9)	51 (1.8)	4 (0.7)	0 (0.0)	0 (0.0)
Louisiana	33 (4.1)	181 (2.1)	25 (2.3)	1 (0.6)	0 (0.0)	0 (0.0)
Maine	34 (5.7)	221 (0.9)	79 (1.9)	15 (1.3)	0 (0.1)	0 (0.0)
Maryland	35 (3.6)	195 (2.1)	44 (2.8)	4 (0.9)	0 (0.0)	0 (0.0)
Massachusetts	28 (3.8)	203 (1.9)	55 (2.9)	5 (1.3)	0 (0.0)	0 (0.0)
Michigan	33 (4.4)	197 (2.9)	48 (3.9)	5 (0.9)	0 (0.0)	0 (0.0)
Minnesota	38 (4.7)	217 (1.4)	71 (2.3)	14 (1.2)	0 (0.3)	0 (0.0)
Mississippi	36 (3.4)	183 (1.6)	29 (2.2)	1 (0.3)	0 (0.0)	0 (0.0)
Missouri	32 (3.9)	204 (1.9)	58 (2.6)	5 (1.0)	0 (0.0)	0 (0.0)
Nebraska	33 (4.4)	209 (1.1)	62 (2.0)	8 (1.4)	0 (0.0)	0 (0.0)
New Hampshire	32 (4.6)	215 (1.1)	73 (2.4)	9 (1.8)	0 (0.1)	0 (0.0)
New Jersey	31 (3.1)	202 (2.7)	53 (4.0)	5 (1.5)	0 (0.0)	0 (0.0)
New Mexico	35 (5.3)	197 (1.4)	45 (2.8)	3 (0.8)	0 (0.0)	0 (0.0)
New York	37 (4.6)	198 (2.1)	49 (3.0)	4 (1.1)	0 (0.1)	0 (0.0)
North Carolina	34 (4.5)	197 (1.0)	47 (2.0)	4 (0.9)	0 (0.0)	0 (0.0)
North Dakota	34 (3.9)	218 (0.9)	75 (1.5)	11 (1.5)	0 (0.1)	0 (0.0)
Ohio	29 (3.6)	199 (1.9)	48 (2.7)	4 (0.9)	0 (0.0)	0 (0.0)
Oklahoma	30 (3.8)	207 (1.2)	60 (2.9)	5 (1.2)	0 (0.0)	0 (0.0)
Pennsylvania	30 (3.9)	202 (2.2)	54 (3.0)	5 (1.0)	0 (0.0)	0 (0.0)
Rhode Island	32 (4.1)	192 (2.4)	41 (3.3)	2 (1.0)	0 (0.0)	0 (0.0)
South Carolina	31 (3.7)	194 (1.4)	41 (2.2)	3 (0.7)	0 (0.1)	0 (0.0)
Tennessee	33 (4.4)	193 (1.8)	41 (2.7)	2 (0.7)	0 (0.0)	0 (0.0)
Texas	33 (3.8)	200 (1.5)	51 (2.5)	4 (1.0)	0 (0.0)	0 (0.0)
Utah	35 (4.7)	211 (1.1)	66 (1.7)	8 (1.1)	0 (0.0)	0 (0.0)
Virginia	34 (3.6)	202 (1.2)	53 (2.7)	5 (0.6)	0 (0.2)	0 (0.0)
West Virginia	33 (4.0)	202 (1.1)	53 (2.0)	4 (0.7)	0 (0.1)	0 (0.0)
Wisconsin	32 (4.5)	214 (1.5)	69 (2.2)	11 (1.2)	0 (0.1)	0 (0.0)
Wyoming	37 (3.0)	215 (1.2)	71 (2.2)	10 (1.3)	0 (0.1)	0 (0.0)
TERRITORY						
Guam	37 (0.2)	180 (1.5)	28 (2.3)	2 (0.6)	0 (0.1)	0 (0.0)

The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. When the proportion of students is either 0 percent or 100 percent, the standard error is inestimable. However, percentages 99.5 percent and greater were rounded to 100 percent and percentages less than 0.5 percent were rounded to 0 percent. ! Interpret with caution - the nature of the sample does not allow accurate determination of the variability of this estimated statistic.

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TABLE A.15 | Average Mathematics Proficiency and Anchor Levels for the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1992					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	25 (1.9)	240 (1.4)	90 (1.6)	36 (2.0)	4 (0.7)	0 (0.1)
Northeast	29 (3.6)	237 (2.6)	91 (2.7)	31 (4.2)	3 (1.1)	0 (0.0)
Southeast	37 (5.5)	242 (2.8)	90 (2.6)	40 (3.8)	5 (1.4)	0 (0.1)
Central	14 (2.6)	240 (3.6)	90 (3.1)	36 (6.3)	3 (1.4)	0 (0.2)
West	20 (3.7)	240 (1.7)	89 (2.1)	35 (2.0)	4 (1.0)	0 (0.2)
STATES						
Alabama	36 (4.7)	234 (2.9)	87 (3.1)	30 (2.6)	2 (1.0)	0 (0.0)
Arizona	32 (3.7)	247 (2.0) >	93 (1.2)	47 (3.0)	5 (0.9)	0 (0.1)
Arkansas	33 (4.1)	240 (1.4)	87 (1.5)	39 (1.7)	4 (0.7)	0 (0.0)
California	33 (4.1)	236 (2.0)	84 (1.8)	35 (2.4)	3 (0.9)	0 (0.1)
Colorado	34 (4.0)	257 (1.3) >	95 (0.9)	59 (1.9)	10 (0.9)	0 (0.1)
Connecticut	36 (3.2)	251 (2.1)	93 (1.8)	51 (2.6)	8 (1.3)	0 (0.1)
Delaware	41 (0.2) «	255 (1.3) >	95 (0.9)	56 (2.4)	10 (1.0)	0 (0.2)
Dist. Columbia	38 (0.4)	219 (1.1)	73 (2.0)	16 (1.7)	0 (0.2)	0 (0.0)
Florida	34 (3.8)	241 (2.4)	88 (2.4)	41 (2.8)	5 (0.8)	0 (0.1)
Georgia	34 (3.9)	242 (1.3)	90 (1.6)	41 (1.9)	4 (1.1)	0 (0.0)
Hawaii	31 (0.3) «	241 (1.3) »	86 (1.6)	41 (2.1) >	6 (0.7) >	0 (0.3)
Idaho	34 (3.5)	266 (1.1) >	98 (0.6)	71 (1.8)	13 (1.1)	0 (0.2)
Indiana	32 (3.6)	254 (1.6)	95 (1.3)	55 (2.4)	9 (1.1)	0 (0.3)
Iowa	33 (4.6)	272 (1.1) >	99 (0.4)	76 (1.8)	19 (1.6)	0 (0.2)
Kentucky	36 (4.6)	250 (1.1)	93 (1.2)	50 (1.7)	7 (0.9)	0 (0.1)
Louisiana	32 (4.2)	229 (2.1)	83 (2.3)	25 (2.3)	1 (0.5)	0 (0.0)
Maine	37 (4.7)	269 (1.1)	98 (0.9)	74 (1.6)	17 (1.6)	0 (0.4)
Maryland	34 (3.4)	241 (2.6)	88 (2.0)	40 (3.0)	4 (1.1)	0 (0.1)
Massachusetts	33 (3.3)	251 (1.7)	94 (1.4)	52 (3.0)	6 (1.0)	0 (0.1)
Michigan	33 (3.4)	242 (1.9)	89 (1.3)	41 (2.7)	4 (0.9)	0 (0.1)
Minnesota	33 (5.5)	272 (1.1) »	98 (0.5)	74 (1.9)	20 (1.6) >	0 (0.2)
Mississippi	33 (2.9)	228 (1.1)	81 (1.6)	23 (1.4)	2 (0.5)	0 (0.0)
Missouri	34 (4.8)	257 (2.0)	96 (1.1)	60 (2.8)	9 (1.2)	0 (0.1)
Nebraska	39 (4.7)	266 (1.3) >	97 (0.7)	70 (1.8)	15 (1.3)	0 (0.3)
New Hampshire	35 (4.1)	268 (1.0) »	98 (0.7)	75 (1.5) >	13 (1.3)	0 (0.1)
New Jersey	34 (4.1)	245 (3.2)	92 (1.7)	44 (4.3)	4 (1.6)	0 (0.0)
New Mexico	29 (3.3)	245 (1.2) >	93 (1.4)	44 (1.8)	4 (1.0)	0 (0.0)
New York	39 (4.8)	241 (3.9)	85 (2.9)	42 (4.4)	6 (1.3)	0 (0.1)
North Carolina	33 (4.9)	244 (1.5) »	90 (1.3)	43 (2.1) >	5 (1.0)	0 (0.1)
North Dakota	37 (4.3)	275 (1.4) »	100 (0.4)	82 (2.0)	18 (1.6)	0 (0.2)
Ohio	31 (4.4)	246 (2.1)	91 (1.6)	45 (2.6)	5 (0.8)	0 (0.1)
Oklahoma	35 (5.0)	255 (1.5) >	95 (1.0)	57 (2.3) >	7 (1.1)	0 (0.2)
Pennsylvania	33 (4.0)	253 (2.1)	94 (1.5)	54 (2.8)	7 (0.9)	0 (0.0)
Rhode Island	32 (0.1) «	247 (1.4)	91 (1.2)	46 (2.9)	5 (1.4)	0 (0.1)
South Carolina	33 (3.7)	244 (1.2)	92 (1.3)	42 (2.1)	5 (0.8)	0 (0.1)
Tennessee	33 (4.6)	243 (1.8)	91 (1.5)	41 (2.4)	4 (0.8)	0 (0.0)
Texas	33 (4.0)	246 (1.1) >	92 (1.2)	45 (1.9)	6 (1.0)	0 (0.2)
Utah	35 (4.3)	265 (0.8)	98 (0.5)	68 (1.6)	15 (1.8)	0 (0.1)
Virginia	34 (4.2)	248 (1.2) >	94 (0.8)	48 (2.4)	4 (0.8)	0 (0.1)
West Virginia	33 (5.0)	248 (1.1) >	95 (1.2)	48 (2.1)	5 (0.9)	0 (0.0)
Wisconsin	31 (4.3)	261 (2.3)	96 (1.0)	65 (3.1)	12 (1.4)	0 (0.1)
Wyoming	29 (3.4)	265 (1.8)	98 (0.7)	69 (2.7)	13 (1.9)	0 (0.2)
TERRITORIES						
Guam	45 (0.3)	229 (1.8)	76 (2.1)	29 (2.4)	4 (0.8)	0 (0.2)
Virgin Islands	52 (0.1) »	214 (1.3) >	67 (3.0)	13 (1.4)	0 (0.2)	0 (0.0)

» The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. « The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated. (xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE A.15 | Average Mathematics Proficiency and Anchor Levels for the Bottom One-Third of the Schools (continued)

PUBLIC SCHOOLS	Grade 8 - 1990					
	Percentage of Students	Average Proficiency	Percentage of Students At or Above Level 200	Percentage of Students At or Above Level 250	Percentage of Students At or Above Level 300	Percentage of Students At or Above Level 350
NATION	35 (4.2)	243 (1.8)	89 (1.8)	42 (1.9)	5 (0.9)	0 (0.1)
Northeast	24(11.6)	248 (6.0)!	91 (4.8)!	46 (5.7)!	8 (2.7)!	0 (0.0)!
Southeast	63 (9.4)	245 (2.8)	90 (2.9)	44 (2.7)	6 (1.1)	0 (0.1)
Central	22 (4.8)	236 (3.7)!	87 (3.9)!	34 (4.0)!	2 (1.5)!	0 (0.0)!
West	31 (7.5)	243 (3.7)!	87 (3.1)!	42 (4.4)!	6 (1.9)!	0 (0.0)!
STATES						
Alabama	34 (4.3)	237 (1.3)	87 (1.4)	34 (2.1)	3 (0.8)	0 (0.2)
Arizona	33 (4.0)	241 (1.8)	89 (1.8)	39 (2.6)	4 (1.0)	0 (0.1)
Arkansas	36 (3.5)	242 (1.4)	92 (1.4)	39 (1.7)	3 (0.9)	0 (0.1)
California	33 (4.0)	236 (1.7)	85 (1.6)	34 (2.4)	4 (0.9)	0 (0.1)
Colorado	33 (3.1)	252 (1.6)	94 (0.9)	53 (2.2)	7 (1.1)	0 (0.2)
Connecticut	37 (3.5)	250 (1.4)	92 (1.2)	51 (2.1)	8 (1.0)	0 (0.1)
Delaware	43 (0.3)	250 (1.2)	92 (1.3)	50 (1.7)	6 (1.0)	0 (0.0)
Dist. Columbia	38 (0.3)	219 (1.1)	75 (2.1)	13 (1.2)	0 (0.1)	0 (0.0)
Florida	33 (4.0)	239 (1.6)	87 (1.4)	38 (1.9)	4 (0.8)	0 (0.0)
Georgia	36 (4.6)	243 (1.1)	90 (1.3)	42 (1.7)	5 (0.6)	0 (0.1)
Hawaii	32 (0.2)	234 (1.3)	83 (1.6)	34 (1.9)	3 (0.8)	0 (0.2)
Idaho	29 (0.8)	261 (1.7)	97 (1.2)	64 (2.8)	10 (1.5)	0 (0.0)
Indiana	34 (4.3)	254 (1.7)	96 (1.2)	54 (2.3)	7 (1.0)	0 (0.2)
Iowa	38 (5.1)	268 (1.1)	99 (0.6)	72 (1.5)	15 (1.2)	0 (0.3)
Kentucky	36 (4.8)	246 (1.4)	93 (1.1)	43 (2.2)	7 (0.8)	0 (0.1)
Louisiana	34 (3.2)	229 (1.4)	83 (1.7)	23 (2.1)	1 (0.4)	0 (0.0)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	35 (3.3)	239 (1.6)	88 (1.6)	37 (2.5)	4 (0.8)	0 (0.0)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	34 (4.2)	244 (1.9)	92 (1.1)	45 (2.9)	3 (0.8)	0 (0.1)
Minnesota	36 (4.4)	265 (1.3)	97 (0.9)	69 (1.7)	14 (1.4)	1 (0.5)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	36 (3.2)	261 (1.3)	96 (1.2)	65 (2.2)	11 (1.0)	0 (0.2)
New Hampshire	36 (0.9)	262 (1.5)	97 (0.8)	65 (3.3)	10 (1.6)	0 (0.1)
New Jersey	32 (3.7)	246 (2.7)	93 (1.7)	42 (3.5)	5 (1.2)	0 (0.0)
New Mexico	28 (0.8)	241 (1.0)	91 (1.4)	38 (1.9)	2 (0.6)	0 (0.0)
New York	40 (3.6)	239 (2.3)	87 (2.1)	37 (2.6)	6 (1.2)	0 (0.1)
North Carolina	35 (3.9)	236 (1.1)	86 (1.5)	34 (1.7)	3 (0.6)	0 (0.0)
North Dakota	29 (2.7)	267 (1.6)	97 (0.9)	74 (3.0)	14 (2.0)	1 (0.6)
Ohio	34 (3.6)	248 (1.2)	93 (1.0)	47 (2.4)	6 (0.9)	0 (0.1)
Oklahoma	33 (4.4)	249 (1.5)	94 (1.3)	50 (1.9)	4 (1.0)	0 (0.0)
Pennsylvania	36 (4.2)	249 (2.2)	92 (1.4)	50 (3.1)	7 (1.6)	0 (0.1)
Rhode Island	40 (0.8)	244 (0.8)	90 (0.8)	43 (1.3)	6 (0.9)	0 (0.1)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	32 (4.5)	241 (2.0)	90 (2.0)	38 (2.4)	4 (0.9)	0 (0.0)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	33 (3.7)	244 (1.3)	93 (1.1)	42 (2.2)	3 (0.8)	0 (0.0)
West Virginia	32 (3.9)	245 (0.8)	93 (1.2)	43 (1.9)	4 (0.8)	0 (0.1)
Wisconsin	35 (4.0)	259 (2.0)	96 (1.2)	61 (2.7)	10 (1.0)	0 (0.2)
Wyoming	35 (0.7)	264 (1.1)	98 (0.5)	69 (1.9)	11 (1.1)	0 (0.1)
TERRITORIES						
Guam	45 (0.2)	227 (1.2)	74 (1.7)	27 (2.2)	3 (0.5)	0 (0.2)
Virgin Islands	50 (0.2)	209 (1.3)	64 (1.8)	8 (1.5)	0 (0.2)	0 (0.0)

(xxx) Did not participate in the 1990 Trial State Assessment.

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APPENDIX B

Guidelines for Sample Participation and Explanation of Derivation of Weighted Participation

Overview

Since 1989, state representatives, the National Assessment Governing Board (NAGB), several committees of external advisors to the National Assessment of Educational Progress (NAEP), and the National Center for Education Statistics (NCES) have engaged in numerous discussions about the procedures for reporting the NAEP Trial State Assessment results. As part of these discussions, it was recognized that sample participation rates across the states and territories have to be uniformly high to permit fair and valid comparisons. Therefore, NCES established four guidelines for school and student participation in the 1990 Trial State Assessment Program.

The participation rate data were presented in the appendix of the 1990 composite mathematics report (*The State of Mathematics Achievement*) and a notation was made in those appendix tables and in Table 2 of the appropriate state report for any jurisdiction with participation levels that did not meet the guidelines. Virtually every state and territory met or exceeded the four guidelines for the 1990 program.

For the 1992 Trial State Assessment, NCES has decided to continue to use those four guidelines, two relating to school participation and two relating to student participation. The guidelines are based on the standards for sample surveys that are set forth in the U.S. Department of Education's *Standards and Policies* (1987). Three of the guidelines for the 1992 program are identical to those used in 1990, while one guideline for school participation has been modified.

NCES and NAGB have reviewed the policy of how participation rates can best be presented so that readers of reports can accurately assess the quality of the data being reported. They decided that for reporting the results from the 1992 Trial State Assessment Program, there will again be tables having notations for the jurisdictions not meeting each guideline. They also decided that there will be a fuller discussion about the participation rates and nature of the samples for each of the participating jurisdictions, which can be found in the *Technical Report of the 1992 Trial State Assessment in Mathematics*.

The next section of this report provides an explanation of the guidelines and notations. In brief, the guidelines cover levels of school and student participation, both overall and for particular population classes. Consistent with the NCES standards, weighted data must be used to calculate all participation rates for sample surveys, and weighted rates will be provided in the reports. The procedures used to derive the weighted school and student participation rates are provided immediately after the discussion of the guidelines and notations.

The final section of this appendix consists of a set of tables that provide the participation rate information for the 1992 Trial State mathematics assessment. Because the aggregate across all states is not representative of any meaningful sample, the weighted participation rates across states have not been analyzed. However, the national and regional counts from the national assessment have been included and do provide some context for interpreting the summary of activities in each individual state and territory.

Notations for Use in Reporting School and Student Participation Rates

Unless the overall participation rate is high for a state or territory, there is a risk that the assessment results for that jurisdiction are subject to appreciable nonresponse bias. Moreover, even if the overall participation rate is high, there may be significant nonresponse bias if the nonparticipation that does occur is heavily concentrated among certain classes of schools or students.

The following notations concerning school and student participation rates in the Trial State Assessment Program were established to address four significant ways in which nonresponse bias could be introduced into the jurisdiction sample estimates. The four conditions that will result in a state or territory receiving a notation in the 1992 reports are presented below. Note that in order to receive no notations, a state or territory must satisfy all the guidelines at both grade 4 and grade 8.

A jurisdiction will receive a notation if:

1. **Both the state's weighted participation rate for the initial sample of schools was below 85 percent AND the weighted school participation rate after substitution was below 90 percent; OR the weighted school participation rate of the initial sample of schools was below 70 percent (regardless of the participation rate after substitution.)**

Discussion: For states or territories that did not use substitute schools, the participation rates are based on participating schools from the original sample. In these situations, the NCES standards specify weighted school participation rates of at least 85 percent to guard against potential bias due to school nonresponse. Thus, the first part of the notation that refers to the weighted school participation rate for the initial sample of schools is in direct accordance with NCES standards.

To help ensure adequate sample representation for each jurisdiction participating in the 1992 Trial State Assessment Program, NAEP provided substitutes for nonparticipating schools. When possible, a substitute school was provided for each initially selected school that declined participation before November 15, 1991. For states or territories that used substitute schools, the assessment results will be based on the student data from all participating schools from both the original sample and the list of substitutes (unless both an initial school and its substitute eventually participated, in which case only the data from the initial school will be used).

The NCES standards do not explicitly address the use of substitute schools to replace initially selected schools that decide not to participate in the assessment. However, considerable technical consideration was given to this issue. Even though the characteristics of the substitute schools were matched as closely as possible to the characteristics of the initially selected schools, substitution does not entirely eliminate bias due to the nonparticipation of initially selected schools. Thus, for the weighted school participation rates including substitute schools, the guideline was set at 90 percent.

Finally, if the jurisdiction's school participation rate for the initial sample of schools is below 70 percent, even if the rate after substitution exceeds 90 percent, there is a substantial possibility that, in aggregate, the substitute schools are not sufficiently similar to the schools that they replaced to assure that there is negligible bias in the assessment results. The last part of the notation takes this into consideration.

A jurisdiction will receive a notation if:

2. **The nonparticipating schools included a class of schools with similar characteristics, which together accounted for more than five percent of the state's total fourth- or eighth-grade weighted sample of public schools. The classes of schools from each of which a state needed minimum school participation levels were determined by urbanicity, minority enrollment, and median household income of the area in which the school is located.**

Discussion: The NCES standards specify that attention should be given to the representativeness of the sample coverage. Thus, if some important segment of the jurisdiction's population is not adequately represented, it is of concern, regardless of the overall participation rate.

This notation addresses the fact that, if nonparticipating schools are concentrated within a particular class of schools, the potential for substantial bias remains, even if the overall level of school participation appears to be satisfactory. Nonresponse adjustment cells have been formed within each jurisdiction, and the schools within each cell are similar with respect to minority enrollment, urbanicity, and/or median household income, as appropriate for each jurisdiction.

If more than five percent (weighted) of the sampled schools (after substitution) are nonparticipants from a single adjustment cell, then the potential for nonresponse bias is too great. This guideline is based on the NCES standard for stratum-specific school nonresponse rates.

A jurisdiction will receive a notation if:

3. **The weighted student response rate within participating schools was below 85 percent.**

Discussion: This guideline follows the NCES standard of 85 percent for overall student participation rates. The weighted student participation rate is based on all eligible students from initially selected or substitute schools who participated in the assessment in either an initial session or a make-up session. If the rate falls below 85 percent, then the potential for bias due to students' nonresponse is too great.

A jurisdiction will receive a notation if:

4. **The nonresponding students within participating schools included a class of students with similar characteristics, who together comprised more than five percent of the state's weighted assessable student sample. Student groups from which a state needed minimum levels of participation were determined by age of student and type of assessment session (unmonitored or monitored), as well as school urbanicity, minority enrollment, and median household income of the area in which the school is located.**

Discussion: This notation addresses the fact that if nonparticipating students are concentrated within a particular class of students, the potential for substantial bias remains, even if the overall student participation level appears to be satisfactory. Student nonresponse adjustment cells have been formed using the school-level nonresponse adjustment cells, together with the student's age and the nature of the assessment session (unmonitored or monitored). If more than five percent (weighted) of the invited students who do not participate in the assessment are from a single adjustment cell, then the potential for nonresponse bias is too great. This guideline is based on the NCES standard for stratum-specific student nonresponse rates.

Derivation of Weighted Participation Rates

Weighted School Participation Rates. The weighted school participation rates within each state or territory provide the percentages of fourth- or eighth-grade students in public schools who are represented by the schools participating in the assessment, prior to statistical adjustments for school nonresponse.

Two weighted school participation rates are computed per subject per grade for each state and territory. The first is the weighted participation rate for the initial sample of schools. This rate is based only on those schools that were initially selected for the assessment. The numerator of this rate is the sum of the number of students represented by each initially selected school that participated in the assessment. The denominator is the sum of the number of students represented by each of the initially selected schools found to have eligible students enrolled. This includes both participating and nonparticipating schools.

The second participation rate is the weighted participation rate after substitution. The numerator of this rate is the sum of the number of students represented by each of the participating schools, whether originally selected or a substitute. The denominator is the same as that for the weighted participation rate for the initial sample. This means that, for a given state, grade, and subject, the weighted participation rate after substitution is always at least as great as the weighted participation rate for the initial sample of schools.

In general, different schools in the sample can represent different numbers of students in the state population. The number of students represented by an initially selected school (the school weight) is the fourth- or eighth-grade enrollment of the school divided by the probability that the school was included in the sample. For instance, a selected school with an eighth-grade enrollment of 150 and a selection probability of 0.2 represents 750 students from that state. The number of students represented by a substitute school is the number of students represented by the replaced nonparticipating school.

Because each selected school represents different numbers of students in the population, the weighted school participation rates may differ somewhat from the simple unweighted rates. (The unweighted rates are calculated from the counts of school by dividing the number of participating schools by the number of schools in the sample.) The difference between the weighted and the unweighted rates is potentially largest in smaller jurisdictions where all schools with fourth- or eighth-grade students were included in the sample. In those jurisdictions, each school represents only its own students. Therefore, the nonparticipation of a large school reduces the weighted school participation rate by a greater amount than does the nonparticipation of a small school.

The nonparticipation of larger schools also has greater impact than that of smaller schools on reducing weighted school participation rates in larger jurisdictions where fewer than all of the schools were included in the sample. However, since the number of students represented by each school is more nearly constant in larger states, the difference between the impact of nonparticipation by either large or small schools is less marked than in states where all schools were selected.

In general, the larger the jurisdiction, the less the difference is between the weighted and unweighted school participation rates. However, even in the smaller jurisdictions, the differences tend to be small.

Weighted Student Participation Rate. The weighted student participation rate provides the percentage of the eligible student population from participating schools within the state or territory that are represented by the students who participated in the assessment (in either an initial session or a make-up session). The eligible student population from participating schools within a jurisdiction consists of all public-school students who were in the fourth grade or eighth grade, who attended a school that, if selected, would have participated and who, if selected, would not have been excluded from the assessment. The numerator of this rate is the sum, across all assessed students, of the number of students represented by each assessed student (prior to adjustment for student nonparticipation). The denominator is the sum of the number of students represented by each selected student who was invited and eligible to participate (i.e., not excluded), including students who did not participate. Thus, the denominator is an estimate of the total number of assessable students in the group of schools within the jurisdiction that would have participated if selected.

The number of students represented by a single selected student (the student weight) is 1.0 divided by the overall probability that the student was selected for assessment. In general, the number of students from a jurisdiction's population that are represented by a sampled student is approximately constant across students. Consequently, there is little difference between the weighted student participation rate and the unweighted student participation rate.

Weighted Overall School and Student Participation Rate. An overall indicator of the effect of nonparticipation by both students and schools is given by the overall participation rate. This is calculated as the product of the weighted school participation rate (after substitution), and the weighted student participation rate. For jurisdictions having a high overall participation rate the potential is low for bias to be introduced through either school nonparticipation or student nonparticipation. This rate provides a summary measure that indicates the proportion of the jurisdiction's fourth- or eighth-grade student population that is directly represented by the final student sample. When the overall rate is high, the adjustments for nonresponse that are used in deriving the final survey weights are likely to be effective in maintaining nonresponse bias at a negligible level. Conversely, when the overall rate is relatively low there is a greater chance that a nonnegligible bias remains even after making such adjustments.

The overall rate is not used in establishing the guidelines/notations for school and student participation, since guidelines exist already covering school and student participation separately. The overall participation rate was not reported in 1990.

Derivation of Weighted Percentages for Excluded Students

Weighted Percentage of Excluded Students. The weighted percentage of excluded students estimates the percentage of the fourth- or eighth-grade population in the jurisdiction's public schools that are represented by the students who were excluded from the assessment, after accounting for school nonparticipation. The numerator is the sum, across all excluded students, of the number of students represented by each excluded student. The denominator is the sum of the number of students represented by each of the students who was sampled (and had not withdrawn from the school at the time of the assessment).

Weighted Percentage of Students with an Individualized Education Plan (IEP). The weighted percentage of IEP students estimates the percentage of the fourth- or eighth-grade population in the jurisdiction's public schools that are represented by the students who were classified as IEP, after accounting for school nonparticipation. The numerator is the sum, across all students classified as IEP, of the number of students represented by each IEP student. The denominator is the sum of the number of students represented by each of the students who was sampled (and had not withdrawn from the school at the time of the assessment).

Weighted Percentage of Excluded IEP Students. The weighted percentage of IEP students who were excluded estimates the percentage of students in the jurisdiction that are represented by those IEP students who were excluded from the assessment, after accounting for school nonparticipation. The numerator is the sum, across all students classified as IEP and excluded from the assessment, of the number of students represented by each excluded IEP student. The denominator is the sum of the number of students represented by each of the IEP students who was sampled (and had not withdrawn from the school at the time of the assessment).

Weighted Percentage of Limited English Proficiency (LEP) Students. The weighted percentage of LEP students estimates the percentage of the fourth- or eighth-grade population in the jurisdiction's public schools that are represented by the students who were classified as LEP, after accounting for school nonparticipation. The numerator is the sum, across all students classified as LEP, of the number of students represented by each LEP student. The denominator is the sum of the number of students represented by each of the students who was sampled (and had not withdrawn from the school at the time of the assessment).

Weighted Percentage of Excluded LEP Students. The weighted percentage of LEP students who were excluded estimates the percentage of students in the jurisdiction that are represented by those LEP students who were excluded from the assessment, after accounting for school nonparticipation.

TABLE B.1 | **School Participation Rates**

PUBLIC SCHOOLS	Grade 4 - 1992							
	Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Number Schools in Original Sample	Number Schools Not Eligible	Number Schools in Original Sample that Participated	Number Substitute Schools Provided	Number Substitute Schools that Participated	Total Number Schools that Participated
NATION	86	86	313	4	268	7	2	270
Northeast	82	82	59	0	49	1	0	49
Southeast	94	94	81	1	76	1	1	77
Central	92	92	68	1	62	0	0	62
West	79	79	105	2	81	5	1	82
STATES								
Alabama	75	97	113	3	81	27	25	106
Arizona	100	100	110	2	108	0	0	108
Arkansas[4]	90	99	123	2	109	11	11	120
California	91	97	115	3	101	7	7	108
Colorado	100	100	123	2	121	0	0	121
Connecticut	99	99	115	4	110	0	0	110
Delaware[2 3]	92	92	56	6	44	0	0	44
Dist. Columbia	99	99	114	5	107	0	0	107
Florida	100	100	111	1	110	0	0	110
Georgia	100	100	110	2	108	0	0	108
Hawaii	100	100	108	0	108	0	0	108
Idaho	84	97	120	0	98	21	17	115
Indiana	76	91	118	2	88	26	17	105
Iowa	100	100	132	4	128	0	0	128
Kentucky[4]	93	96	124	3	115	3	3	118
Louisiana	100	100	112	4	109	0	0	109
Maine[1 2 4 5]	57	71	142	2	75	44	23	98
Maryland	99	99	112	1	110	1	0	110
Massachusetts	87	97	123	4	103	12	11	114
Michigan[4]	83	90	114	3	90	16	8	98
Minnesota[5]	82	94	118	5	93	16	14	107
Mississippi	98	100	111	2	107	2	2	109
Missouri	89	97	120	7	101	9	9	110
Nebraska[1 2]	80	87	157	6	109	36	11	120
New Hampshire[1 2 4 5]	69	80	126	3	84	36	20	104
New Jersey[1 2]	76	82	119	3	88	22	7	95
New Mexico[4 5]	75	90	116	2	86	30	22	108
New York[1 2 4]	78	83	107	0	83	21	7	90
North Carolina[4]	95	99	118	2	111	5	5	116
North Dakota	73	90	133	3	97	30	19	116
Ohio	79	91	122	1	95	21	15	110
Oklahoma	86	98	129	3	111	14	13	124
Pennsylvania	84	95	116	0	99	17	12	111
Rhode Island	83	96	115	5	90	15	15	105
South Carolina	98	99	112	2	108	1	1	109
Tennessee	92	93	120	2	108	8	1	109
Texas	93	98	111	3	100	5	5	105
Utah	99	99	110	1	108	0	0	108
Virginia	99	99	116	4	111	0	0	111
West Virginia	100	100	147	6	141	0	0	141
Wisconsin	100	100	127	5	122	0	0	122
Wyoming	97	97	157	11	143	0	0	143
TERRITORY								
Guam[2 3]	94	94	21	0	20	0	0	20

See explanations of the notations and guidelines about sample representativeness and for the derivation of weighted participation. Weighted percentages for the nation and region are based on schools sampled for all subject areas assessed in 1990 (reading, science, and mathematics) or 1992 (mathematics, reading, and writing). However, based on the national sampling design the rates shown also are the best estimates for the mathematics assessment. [1]Both the state's weighted participation rate for the initial sample of schools was below 85% AND the weighted school participation rate after substitution was below 90%; OR the weighted school participation rate of the initial sample of schools was below 70% (regardless of the participation rate after substitution.) [2]The nonparticipating schools included a class of schools with similar characteristics, which together accounted for more than five percent of the state's total fourth- or eighth-grade weighted sample of public schools. The classes of schools from each of which a state needed minimum school participation levels were determined by urbanicity, minority enrollment, and median household income of the area in which the school is located.

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TABLE B.1 | School Participation Rates (continued)

PUBLIC SCHOOLS	Grade 8 - 1992 Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Number Schools in Original Sample	Number Schools Not Eligible	Number Schools in Original Sample that Participated	Number Substitute Schools Provided	Number Substitute Schools that Participated	Total Number Schools that Participated
NATION	88	89	248	1	216	4	3	219
Northeast	92	92	45	0	41	0	0	41
Southeast	94	94	62	0	57	0	0	57
Central	86	87	61	1	52	1	1	53
West	82	84	80	0	66	3	2	68
STATES								
Alabama[1,5]	66	92	107	1	70	37	32	102
Arizona[4]	99	99	109	5	103	0	0	103
Arkansas[4]	89	97	101	1	89	10	8	97
California[5]	93	98	107	2	98	7	6	104
Colorado	100	100	113	1	112	0	0	112
Connecticut	99	99	101	3	97	0	0	97
Delaware[3]	100	100	30	2	28	0	0	28
Dist. Columbia[3]	100	100	37	2	35	0	0	35
Florida	100	100	107	4	103	0	0	103
Georgia[4]	99	99	106	4	102	0	0	102
Hawaii[3]	100	100	57	5	51	0	0	51
Idaho[2,5]	85	91	82	1	67	12	7	74
Indiana[4]	79	94	107	0	85	21	17	102
Iowa	99	99	109	3	105	0	0	105
Kentucky	96	98	112	6	102	3	2	104
Louisiana	100	100	109	8	101	0	0	101
Maine[1,2,3]	62	84	100	0	60	33	22	82
Maryland[4]	89	91	104	1	93	9	2	95
Massachusetts	83	95	109	7	85	12	12	97
Michigan	78	94	108	1	83	22	18	101
Minnesota	81	92	104	3	82	15	11	93
Mississippi	99	100	102	3	98	1	1	99
Missouri	92	99	107	1	98	7	7	105
Nebraska[1]	75	85	122	10	73	34	12	85
New Hampshire[5]	80	92	78	1	62	14	11	73
New Jersey[1,2]	69	78	108	2	75	27	9	84
New Mexico[5]	77	94	93	1	69	22	16	85
New York[1,2]	81	83	108	4	84	19	3	87
North Carolina	94	98	108	3	99	4	4	103
North Dakota	78	97	80	6	55	16	15	70
Ohio[4]	77	90	110	0	85	20	14	99
Oklahoma	82	98	110	3	88	17	17	105
Pennsylvania[3]	81	94	107	2	84	21	15	99
Rhode Island[3]	85	100	57	5	44	7	7	51
South Carolina	94	97	105	0	99	4	3	102
Tennessee	87	91	106	2	91	10	4	95
Texas	95	99	107	3	99	5	4	103
Utah	100	100	88	3	85	0	0	85
Virginia	97	97	108	2	103	0	0	103
West Virginia	100	100	108	4	104	0	0	104
Wisconsin	100	100	109	2	107	0	0	107
Wyoming	99	99	66	11	54	0	0	54
TERRITORIES								
Guam[3]	100	100	6	0	6	0	0	6
Virgin Islands[3]	100	100	6	0	6	0	0	6

[3] The Trial State Assessment was based on all eligible schools. There was no sampling of schools. [4] In one or more schools an assessment was conducted, but either the wrong materials were sent to the school(s) or the materials were lost in shipping via the U.S. Postal Service. The school(s) are included in the counts of participating schools, both before and after substitution. However, in the weighted results, the school(s) are treated in the same manner as a nonparticipating school because no student responses were available for analysis and reporting.

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TABLE B.1 | School Participation Rates (continued)

PUBLIC SCHOOLS	Grade 8 - 1990							
	Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Number Schools in Original Sample	Number Schools Not Eligible	Number Schools in Original Sample that Participated	Number Substitute Schools Provided	Number Substitute Schools that Participated	Total Number Schools that Participated
NATION	88	92	145	13	117	15	3	120
Northeast	72	90	25	3	17	5	2	19
Southeast	94	94	40	1	35	4	0	35
Central	94	94	31	4	26	1	0	26
West	88	90	49	5	39	5	1	40
STATES								
Alabama	86	97	106	5	87	13	11	98
Arizona[4]	97	97	110	7	102	0	0	102
Arkansas	100	100	107	0	107	0	0	107
California	94	94	106	2	98	0	0	98
Colorado	100	100	107	2	105	0	0	105
Connecticut	100	100	108	5	103	0	0	103
Delaware[3]	100	100	30	0	30	0	0	30
Dist. Columbia[3]	100	100	36	0	36	0	0	36
Florida[4]	98	98	108	6	101	0	0	101
Georgia	100	100	109	3	106	0	0	106
Hawaii[3]	100	100	57	4	52	0	0	52
Idaho	97	97	108	2	101	4	0	101
Indiana[4]	89	94	105	1	92	9	6	98
Iowa[3]	91	91	108	7	92	9	0	92
Kentucky	100	100	112	8	104	0	0	104
Louisiana	100	100	108	9	99	0	0	99
Maine	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Maryland	100	100	107	2	105	0	0	105
Massachusetts	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Michigan	90	97	105	4	90	9	8	98
Minnesota	90	93	108	3	94	5	3	97
Mississippi	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Missouri	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Nebraska	87	94	121	8	94	10	9	103
New Hampshire	91	97	107	3	94	4	4	98
New Jersey	97	98	112	3	106	2	1	107
New Mexico	100	100	108	2	106	0	0	106
New York[4]	86	86	105	0	91	0	0	91
North Carolina	100	100	111	5	106	0	0	106
North Dakota	96	100	111	5	98	8	8	106
Ohio	96	98	105	2	99	4	2	101
Oklahoma	78	99	112	0	85	26	23	108
Pennsylvania	90	93	106	4	92	4	3	95
Rhode Island[3]	94	97	52	0	49	2	2	51
South Carolina	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Tennessee	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Texas[3]	88	97	107	4	92	10	9	101
Utah	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Virginia	99	99	106	1	104	0	0	104
West Virginia	100	100	107	6	101	0	0	101
Wisconsin[4]	99	99	109	3	106	0	0	106
Wyoming	100	100	69	0	69	0	0	69
TERRITORIES								
Guam[3]	100	100	7	1	6	0	0	6
Virgin Islands[3]	100	100	6	0	6	0	0	6

[4] One or more schools in the original sample initially declined and then decided to participate after their substitute(s) had also agreed to participate. Further, assessments were conducted in both the original and substitute schools. For these cases the substitute school is included in the number of substitute schools provided and in the number of substitute schools participating. The state's estimates will be based on the student responses from the original school only. (xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE B.2 | Student Participation Rates

PUBLIC SCHOOLS	Grade 4 - 1992								
	Weighted Percentage Student Participation After Make-ups	Number Students Original Sample	Number Students Supplemental Sample	Number Students Withdrawn	Number Students Excluded	Number Students to be Assessed	Number Students Assessed Initial Sessions	Number Students Assessed Make-ups	Total Number Students Assessed
NATION	94	6,582	--	--	584	5,998	5,639	2	5,641
Northeast	94	1,175	--	--	106	1,069	1,007	0	1,007
Southeast	93	1,981	--	--	133	1,848	1,733	0	1,733
Central	94	1,357	--	--	75	1,282	1,213	0	1,213
West	94	2,069	--	--	270	1,799	1,686	2	1,688
STATES									
Alabama	95	2,903	68	115	127	2,729	2,605	0	2,605
Arizona	95	3,133	152	232	154	2,899	2,752	10	2,762
Arkansas[2]	96	2,961	90	149	154	2,748	2,641	6	2,647
California	94	3,015	141	224	364	2,568	2,392	20	2,412
Colorado	95	3,244	124	152	166	3,050	2,893	13	2,906
Connecticut	96	2,959	68	118	196	2,713	2,596	4	2,600
Delaware	95	2,330	84	141	121	2,152	2,028	12	2,040
Dist. Columbia	93	2,914	66	148	255	2,577	2,386	13	2,399
Florida	95	3,267	202	214	273	2,982	2,818	10	2,828
Georgia	95	3,117	138	202	154	2,899	2,759	7	2,766
Hawaii	95	3,009	89	168	169	2,761	2,617	8	2,625
Idaho	97	2,983	90	100	102	2,871	2,777	7	2,784
Indiana	96	2,815	72	86	92	2,709	2,590	3	2,593
Iowa	96	3,001	54	74	98	2,883	2,759	11	2,770
Kentucky	96	2,970	109	156	99	2,824	2,690	13	2,703
Louisiana	95	3,113	102	155	122	2,938	2,776	16	2,792
Maine[1]	95	2,161	31	46	124	2,022	1,920	3	1,923
Maryland	96	3,170	103	175	126	2,972	2,842	2	2,844
Massachusetts	95	2,942	32	77	219	2,678	2,544	5	2,549
Michigan[2]	94	2,736	82	100	136	2,582	2,417	6	2,423
Minnesota[1]	95	2,924	39	60	104	2,799	2,666	3	2,669
Mississippi	97	3,023	89	159	146	2,807	2,709	3	2,712
Missouri	96	2,778	112	152	117	2,621	2,501	8	2,509
Nebraska	96	2,602	44	80	122	2,444	2,320	17	2,337
New Hampshire[1]	96	2,538	47	78	99	2,408	2,309	7	2,316
New Jersey	96	2,483	49	77	133	2,322	2,220	11	2,231
New Mexico[1]	95	2,874	50	184	188	2,552	2,436	0	2,436
New York	96	2,545	44	75	127	2,387	2,277	7	2,284
North Carolina	95	3,144	142	142	122	3,022	2,880	4	2,884
North Dakota	96	2,312	42	40	45	2,269	2,190	3	2,193
Ohio	95	2,962	84	113	166	2,767	2,632	5	2,637
Oklahoma[1]	84	2,936	110	149	215	2,682	2,250	4	2,254
Pennsylvania	96	3,015	55	90	112	2,868	2,729	11	2,740
Rhode Island	95	2,767	54	142	161	2,518	2,390	0	2,390
South Carolina	97	3,045	110	143	144	2,868	2,771	0	2,771
Tennessee	96	2,979	107	148	117	2,821	2,704	4	2,708
Texas	96	3,013	105	162	234	2,722	2,618	5	2,623
Utah	96	3,130	95	167	128	2,930	2,793	6	2,799
Virginia	95	3,105	130	146	163	2,926	2,777	9	2,786
West Virginia	96	3,068	72	92	134	2,914	2,782	4	2,786
Wisconsin	96	3,079	61	89	141	2,910	2,793	4	2,797
Wyoming	96	2,833	98	116	98	2,717	2,602	3	2,605
TERRITORY									
Guam	95	2,158	104	91	133	2,038	1,914	19	1,933

See explanations of the notations and guidelines about sample representativeness and for the derivation of weighted participation. Weighted percentages for the nation and region are based on schools sampled for all subject areas assessed in 1990 (reading, science, and mathematics) or 1992 (mathematics, reading, and writing). However, based on the national sampling design, the rates shown also are the best estimates for the mathematics assessment. [1] The weighted student response rate within participating schools was below 85 percent. Oklahoma, however, was the only state that required parental permission forms on a statewide basis. [2] The nonresponding students within participating schools included a class of students with similar characteristics, who together comprised more than five percent of the state's weighted assessable student sample. Student groups from which a state needed minimum levels of participation were determined by age of student and type of assessment session (unmonitored or monitored), as well as school urbanicity, minority enrollment, and median household income of the area in which the school is located.

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TABLE B.2 | Student Participation Rates (continued)

PUBLIC SCHOOLS	Grade 8 - 1992								
	Weighted Percentage Student Participation After Make-ups	Number Students Original Sample	Number Students Supplemental Sample	Number Students Withdrawn	Number Students Excluded	Number Students to be Assessed	Number Students Assessed Initial Sessions	Number Students Assessed Make-ups	Total Number Students Assessed
NATION	89	7,406	--	--	582	6,824	5,975	58	6,033
Northeast	89	1,321	--	--	100	1,221	1,041	20	1,061
Southeast	90	1,885	--	--	92	1,793	1,607	3	1,610
Central	89	1,672	--	--	103	1,669	1,392	6	1,398
West	88	2,528	--	--	287	2,241	1,935	29	1,964
STATES									
Alabama[3]	95	3,011	65	163	165	2,748	2,611	12	2,623
Arizona	93	3,089	181	280	178	2,812	2,565	52	2,617
Arkansas	94	2,978	84	169	176	2,717	2,540	16	2,556
California[3]	92	3,101	120	212	246	2,763	2,510	27	2,537
Colorado	93	3,199	126	183	136	3,006	2,773	26	2,799
Connecticut	94	3,029	71	125	192	2,783	2,590	23	2,613
Delaware	92	2,220	83	108	97	2,098	1,858	76	1,934
Dist. Columbia	85	2,517	79	234	225	2,137	1,692	124	1,816
Florida	91	3,073	184	246	199	2,812	2,515	34	2,549
Georgia	93	3,011	133	220	137	2,787	2,563	26	2,589
Hawaii	90	2,904	85	123	142	2,724	2,421	33	2,454
Idaho[3]	95	2,936	79	125	91	2,799	2,638	7	2,645
Indiana	94	3,000	49	89	140	2,820	2,645	14	2,659
Iowa	95	3,133	40	85	129	2,959	2,801	15	2,816
Kentucky	96	3,087	87	156	135	2,883	2,746	10	2,756
Louisiana	92	3,028	80	194	120	2,794	2,565	17	2,582
Maine[3]	93	2,838	32	48	124	2,698	2,512	8	2,520
Maryland	92	2,803	108	178	128	2,605	2,364	35	2,399
Massachusetts	94	2,909	24	93	217	2,623	2,439	17	2,456
Michigan	94	3,020	79	122	184	2,793	2,573	43	2,616
Minnesota	94	2,758	38	85	92	2,619	2,439	32	2,471
Mississippi	95	2,958	76	191	207	2,636	2,490	8	2,498
Missouri	95	2,984	124	165	128	2,815	2,641	25	2,666
Nebraska	96	2,543	31	74	108	2,392	2,283	2	2,285
New Hampshire[3]	94	2,958	49	96	156	2,755	2,562	20	2,582
New Jersey	94	2,506	50	80	169	2,307	2,160	14	2,174
New Mexico[3]	93	3,041	70	168	163	2,780	2,556	29	2,585
New York	92	2,581	44	85	193	2,347	2,131	27	2,158
North Carolina	94	3,071	114	147	102	2,936	2,759	10	2,769
North Dakota	96	2,513	33	65	63	2,418	2,305	9	2,314
Ohio	93	2,942	87	120	177	2,732	2,518	17	2,535
Oklahoma[4]	80	2,934	114	154	184	2,710	2,129	12	2,141
Pennsylvania[3]	94	2,964	32	63	127	2,806	2,611	29	2,640
Rhode Island	93	2,481	45	118	119	2,289	2,099	21	2,120
South Carolina	94	3,057	103	178	174	2,808	2,622	3	2,625
Tennessee	94	2,838	117	174	137	2,644	2,470	15	2,485
Texas	94	3,048	133	182	205	2,794	2,596	18	2,614
Utah	94	3,124	102	175	141	2,910	2,713	13	2,726
Virginia	94	3,091	103	169	153	2,872	2,690	20	2,710
West Virginia	94	3,097	43	119	178	2,843	2,675	15	2,690
Wisconsin	94	3,165	58	91	130	3,002	2,787	27	2,814
Wyoming	95	2,743	64	124	107	2,576	2,403	41	2,444
TERRITORIES									
Guam	90	1,734	56	51	72	1,667	1,491	5	1,496
Virgin Islands	92	1,708	39	60	86	1,601	1,410	69	1,479

[3] One or more schools in the original sample initially declined and then decided to participate after their substitute(s) had also agreed to participate. Further, assessments were conducted in both the original and substitute schools. For these cases, the students in the substitute school(s) are included in the counts of students in the table. The state's estimates will be based on the student responses from the original school only. [4] In one or more schools an assessment was conducted but the wrong materials were sent to the school(s). The students in these school(s) are included in the counts of students in the tables. However, the state's estimates will not be based on these student responses.

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TABLE B.2 | Student Participation Rates (continued)

PUBLIC SCHOOLS	Grade 8 - 1990								
	Weighted Percentage Student Participation After Make-ups	Number Students Original Sample	Number Students Supplemental Sample	Number Students Withdrawn	Number Students Excluded	Number Students to be Assessed	Number Students Assessed Initial Sessions	Number Students Assessed Make-ups	Total Number Students Assessed
NATION	90	11,871	--	--	741	11,130	9,775	147	9,922
Northeast	91	1,922	--	--	96	1,826	1,622	11	1,633
Southeast	91	3,163	--	--	119	3,044	2,752	0	2,752
Central	91	2,491	--	--	219	2,272	2,017	22	2,039
West	88	4,295	--	--	307	3,988	3,384	114	3,498
STATES									
Alabama	95	2,908	99	186	162	2,659	2,511	20	2,531
Arizona	93	2,945	161	206	158	2,742	2,480	78	2,558
Arkansas	95	3,104	127	183	244	2,804	2,640	29	2,669
California	93	2,933	63	135	242	2,619	2,353	71	2,424
Colorado	94	3,074	103	192	142	2,843	2,632	43	2,675
Connecticut	95	3,085	58	115	213	2,815	2,646	26	2,672
Delaware	93	2,455	83	163	122	2,253	2,052	58	2,110
Dist. Columbia	88	2,758	72	237	156	2,437	2,017	118	2,135
Florida	92	3,005	148	209	200	2,744	2,475	59	2,534
Georgia	94	3,175	126	254	117	2,930	2,736	30	2,766
Hawaii	93	2,933	82	120	151	2,744	2,452	99	2,551
Idaho	96	2,941	90	123	78	2,830	2,707	9	2,716
Indiana	95	2,910	81	143	144	2,704	2,534	35	2,569
Iowa	96	2,714	40	73	104	2,577	2,462	12	2,474
Kentucky	95	3,068	88	179	158	2,819	2,660	20	2,680
Louisiana	94	2,949	108	204	130	2,723	2,544	28	2,572
Maine	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Maryland	94	3,151	82	115	152	2,966	2,732	62	2,794
Massachusetts	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Michigan	95	2,941	64	140	129	2,736	2,524	63	2,587
Minnesota	95	2,857	50	105	87	2,715	2,537	47	2,584
Mississippi	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Missouri	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Nebraska	95	2,766	58	93	84	2,647	2,497	22	2,519
New Hampshire	95	2,870	52	80	132	2,710	2,548	20	2,568
New Jersey	94	3,149	63	113	234	2,865	2,675	35	2,710
New Mexico	94	3,091	122	236	185	2,792	2,600	43	2,643
New York	93	2,704	56	98	171	2,491	2,242	60	2,302
North Carolina	95	3,160	97	142	107	3,008	2,791	52	2,843
North Dakota	96	2,672	55	58	91	2,578	2,483	2	2,485
Ohio	95	3,030	90	138	174	2,808	2,642	31	2,673
Oklahoma'	80	3,007	107	194	164	2,756	2,208	14	2,222
Pennsylvania	94	2,849	51	77	148	2,675	2,506	22	2,528
Rhode Island	93	3,152	91	178	208	2,857	2,633	42	2,675
South Carolina	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Tennessee	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Texas	96	2,909	140	196	196	2,657	2,525	17	2,542
Utah	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Virginia	94	3,120	85	195	174	2,836	2,633	28	2,661
West Virginia	94	3,008	77	152	172	2,761	2,532	68	2,600
Wisconsin	94	3,101	52	92	145	2,916	2,705	45	2,750
Wyoming	96	2,973	83	126	106	2,824	2,662	39	2,701
TERRITORIES									
Guam	93	1,810	62	58	75	1,739	1,573	44	1,617
Virgin Islands	93	1,490	1	16	48	1,427	1,299	27	1,326

(--) Because student sampling for the national assessment was implemented within several days of the assessment within each school there was no supplemental sample and the number of students withdrawn was negligible. (xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE B.3 | Summary of School and Student Participation

PUBLIC SCHOOLS	Grade 4 - 1992					
	Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Notation Number 1	Weighted Percentage Student Participation After Make-ups	Notation Number 3	Weighted Overall Rate
NATION	86	86		94		81
Northeast	82	82		94		78
Southeast	94	94		93		88
Central	92	92		94		87
West	79	79		94		75
STATES						
Alabama	75	97		95		93
Arizona	100	100		95		95
Arkansas	90	99		96		95
California	91	97		94		91
Colorado	100	100		95		95
Connecticut	99	99		96		95
Delaware	92	92		95		87
Dist. Columbia	99	99		93		92
Florida	100	100		95		95
Georgia	100	100		95		95
Hawaii	100	100		95		95
Idaho	84	97		97		94
Indiana	76	91		96		87
Iowa	100	100		96		96
Kentucky	93	96		96		92
Louisiana	100	100		95		95
Maine	57	71	***	95		68
Maryland	99	99		96		95
Massachusetts	87	97		95		92
Michigan	83	90		94		84
Minnesota	82	94		95		89
Mississippi	98	100		97		97
Missouri	89	97		96		93
Nebraska	80	87	***	96		83
New Hampshire	69	80	***	96		77
New Jersey	76	82	***	96		79
New Mexico	75	90		95		86
New York	78	83	***	96		80
North Carolina	95	99		95		94
North Dakota	73	90		96		87
Ohio	79	91		95		87
Oklahoma	86	98		84	***	83
Pennsylvania	84	95		96		91
Rhode Island	83	96		95		91
South Carolina	98	99		97		96
Tennessee	92	93		96		89
Texas	93	98		96		94
Utah	99	99		96		95
Virginia	99	99		95		94
West Virginia	100	100		96		96
Wisconsin	100	100		96		96
Wyoming	97	97		96		93
TERRITORY						
Guam	94	94		95		89

See explanations of the notations and guidelines about sample representativeness and for the derivation of weighted participation. Weighted percentages for the nation and region are based on schools sampled for all subject areas assessed in 1990 (reading, science, and mathematics) or 1992 (mathematics, reading, and writing). However, based on the national sampling design, the rates shown also are the best estimates for the mathematics assessment. **Notation Number 1** = Both the state's weighted participation rate for the initial sample of schools was below 85% AND the weighted school participation rate after substitution was below 90%; OR the weighted school participation rate of the initial sample of schools was below 70% (regardless of the participation rate after substitution.) **Notation number 3** = The weighted student response rate within participating schools was below 85 percent.

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TABLE B.3 | Summary of School and Student Participation (continued)

	Grade 8 - 1992						Grade 8 - 1990					
PUBLIC SCHOOLS	Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Notation Number 1	Weighted Percentage Student Participation After Make-ups	Notation Number 3	Weighted Overall Rate	Weighted Percentage School Participation Before Substitution	Weighted Percentage School Participation After Substitution	Notation Number 1	Weighted Percentage Student Participation After Make-ups	Notation Number 3	Weighted Overall Rate
NATION	88	89		89		79	88	92		90		83
Northeast	92	92		89		82	72	90		91		82
Southeast	94	94		90		85	94	94		91		86
Central	86	87		89		78	94	94		91		86
West	82	84		88		74	88	90		88		79
STATES												
Alabama	66	92	***	95		88	86	97		95		93
Arizona	99	99		93		92	97	97		93		90
Arkansas	89	97		94		91	100	100		95		95
California	93	98		92		90	94	94		93		87
Colorado	100	100		93		93	100	100		94		94
Connecticut	99	99		94		93	100	100		95		95
Delaware	100	100		92		92	100	100		93		93
Dist. Columbia	100	100		85		85	100	100		88		88
Florida	100	100		91		91	98	98		92		90
Georgia	99	99		93		92	100	100		94		94
Hawaii	100	100		90		90	100	100		93		93
Idaho	85	91		95		86	97	97		96		93
Indiana	79	94		94		88	89	94		95		89
Iowa	99	99		95		94	91	91		96		88
Kentucky	96	98		96		94	100	100		95		95
Louisiana	100	100		92		92	100	100		94		94
Maine	62	84	***	93		78	xxx	xxx		xxx		xxx
Maryland	89	91		92		84	100	100		94		94
Massachusetts	83	95		94		89	xxx	xxx		xxx		xxx
Michigan	78	94		94		88	90	97		95		92
Minnesota	81	92		94		87	90	93		95		89
Mississippi	99	100		95		95	xxx	xxx		xxx		xxx
Missouri	92	99		95		94	xxx	xxx		xxx		xxx
Nebraska	75	85	***	96		81	87	94		95		90
New Hampshire	80	92		94		86	91	97		95		92
New Jersey	69	78	***	94		73	97	98		94		93
New Mexico	77	94		93		87	100	100		94		94
New York	81	83	***	92		77	86	86		93		79
North Carolina	94	98		94		92	100	100		95		95
North Dakota	78	97		96		93	96	100		96		96
Ohio	77	90		93		83	96	98		95		93
Oklahoma	82	98		80	***	79	78	99		80	***	79
Pennsylvania	81	94		94		89	90	93		94		88
Rhode Island	85	100		93		92	94	97		93		91
South Carolina	94	97		94		91	xxx	xxx		xxx		xxx
Tennessee	87	91		94		86	xxx	xxx		xxx		xxx
Texas	95	99		94		93	88	97		96		93
Utah	100	100		94		94	xxx	xxx		xxx		xxx
Virginia	97	97		94		92	99	99		94		93
West Virginia	100	100		94		94	100	100		94		94
Wisconsin	100	100		94		94	99	99		94		93
Wyoming	99	99		95		94	100	100		96		96
TERRITORIES												
Guam	100	100		90		90	100	100		93		93
Virgin Islands	100	100		92		92	100	100		93		93

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE B.4 | Weighted Percentages of Students Excluded (IEP and LEP) from Original Sample

PUBLIC SCHOOLS	Grade 4 - 1992					
	Total Percentage Students Identified IEP and LEP	Total Percentage Students Excluded	Percentage Students Identified IEP	Percentage Students Excluded IEP	Percentage Students Identified LEP	Percentage Students Excluded LEP
NATION	12	8	9	6	4	3
Northeast	12	8	9	5	3	3
Southeast	11	7	9	6	1	1
Central	7	5	6	4	1	1
West	18	12	10	6	9	7
STATES						
Alabama	10	5	10	4	0	0
Arizona	15	5	7	3	9	2
Arkansas	12	5	11	5	1	0
California	28	12	8	3	22	10
Colorado	10	5	8	4	2	1
Connecticut	14	7	10	4	4	3
Delaware	12	5	11	5	1	1
Dist. Columbia	12	9	8	7	4	2
Florida	17	8	13	7	4	2
Georgia	10	5	9	5	1	1
Hawaii	14	6	10	5	4	2
Idaho	9	3	8	3	2	1
Indiana	7	3	6	3	1	0
Iowa	9	3	8	3	1	0
Kentucky	8	3	8	3	0	0
Louisiana	8	4	7	4	1	0
Maine	14	6	14	6	0	0
Maryland	11	4	10	3	1	1
Massachusetts	18	7	15	6	3	2
Michigan	7	5	7	5	1	1
Minnesota	9	3	7	3	2	0
Mississippi	7	5	7	5	0	0
Missouri	12	4	12	4	0	0
Nebraska	13	4	12	4	1	0
New Hampshire	12	4	12	4	0	0
New Jersey	11	6	8	3	4	2
New Mexico	15	7	12	6	3	1
New York	12	5	7	3	5	2
North Carolina	12	4	12	3	1	0
North Dakota	9	2	8	2	1	0
Ohio	10	6	10	6	1	0
Oklahoma	14	7	12	7	2	0
Pennsylvania	9	4	8	3	1	1
Rhode Island	16	6	10	4	6	3
South Carolina	10	5	10	5	0	0
Tennessee	11	4	11	4	0	0
Texas	17	8	9	5	9	4
Utah	10	4	9	4	1	1
Virginia	12	5	10	5	1	1
West Virginia	9	4	9	4	0	0
Wisconsin	11	5	9	5	2	1
Wyoming	10	4	9	3	1	0
TERRITORY						
Guam	12	6	6	4	7	3

IEP = Individual Education Plan and LEP = Limited English Proficiency. To be excluded, a student was supposed to be IEP or LEP and judged incapable of participating in the assessment. A student reported as both IEP and LEP is counted once in the overall rate (first column), once in the overall excluded rate (second column), and separately in the remaining columns. Note: Weighted percentages for the nation and region are based on students sampled for all subject areas assessed in 1990 (reading, science, and mathematics) or 1992 (mathematics, reading, and writing). However, based on the national sampling design, the rates shown also are the best estimates for the mathematics assessment.

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TABLE B.4 | Weighted Percentages of Students Excluded (IEP and LEP) from Original Sample (continued)

PUBLIC SCHOOLS	Grade 8 - 1992						Grade 8 - 1990					
	Total Percentage Students Identified IEP and LEP	Total Percentage Students Excluded	Percentage Students Identified IEP	Percentage Students Excluded IEP	Percentage Students Identified LEP	Percentage Students Excluded LEP	Total Percentage Students Identified IEP and LEP	Total Percentage Students Excluded	Percentage Students Identified IEP	Percentage Students Excluded IEP	Percentage Students Identified LEP	Percentage Students Excluded LEP
NATION	12	7	9	5	3	2	8	6	6	5	2	1
Northeast	12	8	10	6	3	2	6	4	6	4	1	0
Southeast	11	6	10	5	1	1	6	4	6	4	0	0
Central	9	6	8	5	1	1	9	8	8	6	2	2
West	15	9	8	5	8	4	10	6	6	4	4	2
STATES												
Alabama	10	5	10	5	0	0	10	6	10	6	0	0
Arizona	12	6	6	4	6	2	13	5	7	4	6	2
Arkansas	11	6	11	6	0	0	12	8	11	8	0	0
California	20	8	8	4	13	5	16	8	7	4	9	5
Colorado	9	4	8	4	1	1	10	5	9	4	1	1
Connecticut	14	7	12	5	3	1	12	7	10	6	2	1
Delaware	10	4	9	4	1	0	10	5	9	4	1	1
Dist. Columbia	12	10	9	7	3	2	7	6	5	5	1	1
Florida	13	6	10	5	4	2	12	7	9	5	3	2
Georgia	8	5	7	4	1	0	7	4	7	4	0	0
Hawaii	13	5	9	3	4	2	10	5	7	4	3	1
Idaho	7	3	6	3	1	0	7	3	6	2	1	0
Indiana	9	5	8	4	1	0	8	5	7	5	0	0
Iowa	11	4	10	4	1	0	10	4	10	4	0	0
Kentucky	9	5	9	5	0	0	8	5	8	5	0	0
Louisiana	7	4	7	4	0	0	7	5	6	4	0	0
Maine	11	4	11	4	0	0	xxx	xxx	xxx	xxx	xxx	xxx
Maryland	11	5	10	4	1	1	11	5	10	4	1	1
Massachusetts	18	8	15	6	4	2	xxx	xxx	xxx	xxx	xxx	xxx
Michigan	9	6	9	6	1	0	9	5	8	4	1	0
Minnesota	8	3	7	3	1	0	9	3	8	3	1	0
Mississippi	10	7	10	7	0	0	xxx	xxx	xxx	xxx	xxx	xxx
Missouri	11	4	10	4	0	0	xxx	xxx	xxx	xxx	xxx	xxx
Nebraska	11	4	10	4	1	0	9	3	8	3	0	0
New Hampshire	13	5	12	5	0	0	12	5	12	5	0	0
New Jersey	14	7	12	6	3	1	13	8	10	6	2	2
New Mexico	12	5	11	4	3	1	10	7	9	6	2	1
New York	13	8	10	6	3	3	12	7	9	5	4	2
North Carolina	12	3	12	3	1	0	9	3	9	3	0	0
North Dakota	8	2	7	2	1	0	8	3	8	3	1	0
Ohio	10	6	10	6	0	0	8	6	8	6	0	0
Oklahoma	11	6	10	6	1	0	9	6	8	5	1	0
Pennsylvania	10	4	9	4	1	0	11	6	10	5	1	0
Rhode Island	14	5	10	4	4	2	15	7	12	5	4	2
South Carolina	10	6	10	6	0	0	xxx	xxx	xxx	xxx	xxx	xxx
Tennessee	10	5	10	5	0	0	xxx	xxx	xxx	xxx	xxx	xxx
Texas	14	7	9	5	6	2	14	7	8	5	5	2
Utah	9	4	9	4	1	0	xxx	xxx	xxx	xxx	xxx	xxx
Virginia	12	5	10	5	2	1	10	6	8	5	2	1
West Virginia	10	6	10	6	0	0	10	6	10	6	0	0
Wisconsin	10	4	10	4	1	0	8	5	8	4	1	0
Wyoming	9	4	9	4	0	0	9	4	8	4	1	0
TERRITORIES												
Guam	7	4	5	3	2	1	7	4	5	4	2	1
Virgin Islands	7	5	5	3	2	2	4	3	4	3	0	0

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE B.5 | Weighted Percentages of Absent, IEP, and LEP Students Based on Those Invited to Participate in the Assessment

PUBLIC SCHOOLS	Grade 4 - 1992					
	Weighted Percentage Student Participation After Make-Ups	Weighted Percentage Absent	Weighted Percentage Assessed IEP	Weighted Percentage Absent IEP	Weighted Percentage Assessed LEP	Weighted Percentage Absent LEP
NATION	94	6	89	11	93	7
Northeast	94	6	93	7	81	19
Southeast	93	7	83	17	68	32
Central	94	6	92	8	96	4
West	93	7	90	10	94	6
STATES						
Alabama	95	5	95	5	100	0
Arizona	95	5	96	4	93	7
Arkansas	96	4	95	5	100	0
California	94	6	85	15	93	7
Colorado	95	5	92	8	95	5
Connecticut	96	4	94	6	95	5
Delaware	95	5	95	5	65	35
Dist. Columbia	93	7	85	15	82	18
Florida	95	5	95	5	95	5
Georgia	95	5	92	8	90	10
Hawaii	95	5	91	9	95	5
Idaho	97	3	93	7	95	5
Indiana	96	4	94	6	86	14
Iowa	96	4	96	4	100	0
Kentucky	96	4	90	10	100	0
Louisiana	95	5	91	9	100	0
Maine	95	5	95	5	100	0
Maryland	96	4	95	5	100	0
Massachusetts	95	5	93	7	92	8
Michigan	94	6	93	7	100	0
Minnesota	95	5	92	8	95	5
Mississippi	97	3	95	5	100	0
Missouri	96	4	97	3	100	0
Nebraska	96	4	94	6	92	8
New Hampshire	96	4	94	6	91	9
New Jersey	96	4	95	5	100	0
New Mexico	95	5	93	7	97	3
New York	96	4	91	9	97	3
North Carolina	95	5	91	9	100	0
North Dakota	96	4	96	4	100	0
Ohio	95	5	95	5	100	0
Oklahoma	85	15	72	28	69	31
Pennsylvania	96	4	99	1	100	0
Rhode Island	95	5	94	6	94	6
South Carolina	97	3	91	9	100	0
Tennessee	96	4	96	4	100	0
Texas	96	4	98	2	98	2
Utah	96	4	95	5	100	0
Virginia	95	5	90	10	95	5
West Virginia	96	4	94	6	0	0
Wisconsin	96	4	91	9	93	7
Wyoming	96	4	94	6	89	11
TERRITORY						
Guam	95	5	85	15	88	12

IEP = Individual Education Plan and LEP = Limited English Proficiency. Note: Weighted percentages for the nation and region are based on students sampled for all subject areas assessed in 1990 (reading, science, and mathematics) or 1992 (mathematics, reading, and writing). However, based on the national sampling design, the rates shown also are the best estimates for the mathematics assessment.

TABLE B.5 | Weighted Percentages of Absent, IEP, and LEP Students Based on Those Invited to Participate in the Assessment (continued)

PUBLIC SCHOOLS	Grade 8 - 1992						Grade 8 - 1990					
	Weighted Percentage Student Participation After Make-Ups	Weighted Percentage Absent	Weighted Percentage Assessed IEP	Weighted Percentage Absent IEP	Weighted Percentage Assessed LEP	Weighted Percentage Absent LEP	Weighted Percentage Student Participation After Make-Ups	Weighted Percentage Absent	Weighted Percentage Assessed IEP	Weighted Percentage Absent IEP	Weighted Percentage Assessed LEP	Weighted Percentage Absent LEP
NATION	89	11	80	20	84	16	90	10	91	9	87	13
Northeast	89	11	78	22	78	22	91	9	86	14	81	19
Southeast	89	11	78	22	78	22	91	9	93	7	0	0
Central	91	9	84	16	84	16	91	9	98	2	100	0
West	88	12	83	17	86	14	88	12	88	12	87	13
STATES												
Alabama	95	5	90	10	74	26	95	5	92	8	100	0
Arizona	93	7	90	10	97	3	93	7	90	10	89	11
Arkansas	94	6	91	9	100	0	95	5	91	9	100	0
California	92	8	87	13	90	10	93	7	97	3	94	6
Colorado	93	7	92	8	100	0	94	6	92	8	100	0
Connecticut	94	6	90	10	100	0	95	5	93	7	100	0
Delaware	92	8	86	14	100	0	93	7	94	6	80	20
Dist. Columbia	85	15	63	37	89	11	88	12	92	8	0	0
Florida	91	9	82	18	94	6	92	8	88	12	79	21
Georgia	93	7	86	14	92	8	94	6	97	3	93	7
Hawaii	90	10	81	19	93	7	93	7	85	15	100	0
Idaho	95	5	95	5	100	0	96	4	97	3	100	0
Indiana	94	6	92	8	100	0	95	5	93	7	100	0
Iowa	95	5	91	9	100	0	96	4	97	3	100	0
Kentucky	96	4	97	3	100	0	95	5	94	6	100	0
Louisiana	92	8	87	13	79	21	94	6	96	4	100	0
Maine	93	7	87	13	100	0	xxx	xxx	xxx	xxx	xxx	xxx
Maryland	92	8	86	14	100	0	94	6	88	12	100	0
Massachusetts	93	7	86	14	92	8	xxx	xxx	xxx	xxx	xxx	xxx
Michigan	94	6	96	4	100	0	95	5	94	6	100	0
Minnesota	94	6	88	12	72	28	95	5	96	4	100	0
Mississippi	95	5	91	9	100	0	xxx	xxx	xxx	xxx	xxx	xxx
Missouri	95	5	95	5	100	0	xxx	xxx	xxx	xxx	xxx	xxx
Nebraska	95	5	92	8	100	0	95	5	95	5	100	0
New Hampshire	94	6	89	11	100	0	95	5	95	5	100	0
New Jersey	94	6	92	8	97	3	94	6	88	12	94	6
New Mexico	93	7	88	12	89	11	94	6	95	5	95	5
New York	91	9	87	13	100	0	93	7	94	6	100	0
North Carolina	94	6	93	7	78	22	95	5	93	7	100	0
North Dakota	96	4	95	5	100	0	96	4	95	5	100	0
Ohio	93	7	86	14	91	9	95	5	97	3	100	0
Oklahoma	80	20	68	32	73	27	80	20	76	24	100	0
Pennsylvania	94	6	87	13	83	17	94	6	95	5	100	0
Rhode Island	93	7	90	10	91	9	93	7	92	8	91	9
South Carolina	93	7	88	12	100	0	xxx	xxx	xxx	xxx	xxx	xxx
Tennessee	94	6	91	9	100	0	xxx	xxx	xxx	xxx	xxx	xxx
Texas	94	6	93	7	85	15	96	4	97	3	94	6
Utah	94	6	90	10	100	0	xxx	xxx	xxx	xxx	xxx	xxx
Virginia	94	6	90	10	96	4	94	6	91	9	90	10
West Virginia	94	6	92	8	100	0	94	6	94	6	100	0
Wisconsin	94	6	87	13	86	14	94	6	93	7	93	7
Wyoming	95	5	94	6	57	43	96	4	93	7	100	0
TERRITORIES												
Guam	90	10	86	14	83	17	93	7	75	25	100	0
Virgin Islands	92	8	53	47	89	11	93	7	73	27	100	0

(xxx) Did not participate in the 1990 Trial State Assessment.

TABLE B.6 | Questionnaire Response Rates

PUBLIC SCHOOLS	Grade 4 - 1992				
	Weighted Percentage of Students Matched to Mathematics Teacher Questionnaires	Percentage of Mathematics Teacher Questionnaires Returned	Weighted Percentage of Students Matched to School Characteristics/ Policies Questionnaires	Percentage of School Characteristics/ Policies Questionnaires Returned	Percentage of Excluded Student Questionnaires Returned
NATION	74.9	97.7	99.0	98.5	91.0
Northeast	75.9	95.8	100.0	100.0	94.6
Southeast	82.7	99.0	96.3	96.1	94.4
Central	72.8	97.6	99.8	98.4	93.3
West	67.8	97.2	100.0	100.0	87.1
STATES					
Alabama	91.0	100.0	100.0	100.0	96.1
Arizona	92.5	99.6	99.0	99.1	96.0
Arkansas	94.3	100.0	100.0	100.0	100.0
California	90.6	99.3	98.9	99.1	89.8
Colorado	86.3	99.3	100.0	100.0	95.2
Connecticut	89.0	99.8	98.6	98.2	88.3
Delaware	94.3	100.0	100.0	100.0	99.2
Dist. Columbia	80.0	99.0	93.7	94.4	94.1
Florida	90.1	98.9	99.2	99.1	97.1
Georgia	88.2	99.3	100.0	100.0	97.4
Hawaii	92.5	98.8	98.8	99.1	98.2
Idaho	91.8	99.7	100.0	100.0	98.0
Indiana	89.3	100.0	100.0	100.0	98.9
Iowa	90.8	99.5	100.0	100.0	98.0
Kentucky	89.9	99.5	99.4	99.1	100.0
Louisiana	91.2	99.6	98.9	99.1	96.7
Maine	90.6	99.1	99.3	98.9	94.3
Maryland	90.2	99.5	100.0	100.0	92.9
Massachusetts	87.4	100.0	100.0	100.0	97.7
Michigan	89.9	100.0	100.0	100.0	95.6
Minnesota	80.4	97.6	95.5	96.2	91.2
Mississippi	88.6	99.8	100.0	100.0	97.3
Missouri	90.6	99.7	100.0	100.0	91.5
Nebraska	86.1	100.0	99.0	99.2	99.2
New Hampshire	94.9	99.7	97.8	99.0	100.0
New Jersey	92.5	100.0	100.0	100.0	99.2
New Mexico	87.3	99.0	100.0	100.0	94.8
New York	91.7	99.0	99.5	98.9	100.0
North Carolina	94.4	100.0	99.1	99.1	99.2
North Dakota	93.1	100.0	100.0	100.0	97.8
Ohio	89.6	99.5	99.8	99.1	94
Oklahoma	94.5	99.1	97.9	98.4	92
Pennsylvania	93.8	100.0	100.0	100.0	100.0
Rhode Island	92.1	99.4	99.1	98.9	93.8
South Carolina	97.3	99.6	100.0	100.0	98.6
Tennessee	93.4	100.0	99.3	99.1	97.4
Texas	84.5	99.9	99.3	99.0	99.1
Utah	95.2	99.5	100.0	100.0	97.7
Virginia	88.4	99.6	97.7	97.3	95.7
West Virginia	88.5	100.0	100.0	100.0	100.0
Wisconsin	90.2	99.7	99.3	99.2	97.1
Wyoming	91.4	100.0	99.9	99.3	100.0
TERRITORY					
Guam	97.5	98.3	93.7	95.0	87.2

The Mathematics Teacher Questionnaire requested background information about the teacher (Part I) and information about instruction in particular classes (Part II). The percentage of students matched to questionnaires is provided for Part II. If they differed, the match rates for Part I were higher. Note: For the nation and regions, the percentage of excluded student questionnaires returned is based on students sampled for all subjects assessed in 1990 (reading, science, and mathematics) or 1992 (mathematics, reading, and writing). However, based on the sampling design, these rates also are the best estimates of the comparable rates for the mathematics assessment in each year.

TABLE B.6 | Questionnaire Response Rates (continued)

PUBLIC SCHOOLS	Grade 8 - 1992				
	Weighted Percentage of Students Matched to Mathematics Teacher Questionnaires	Percentage of Mathematics Teacher Questionnaires Returned	Weighted Percentage of Students Matched to School Characteristics/ Policies Questionnaires	Percentage of School Characteristics/ Policies Questionnaires Returned	Percentage of Excluded Student Questionnaires Returned
NATION	79.7	96.2	94.5	92.7	88.8
Northeast	81.7	97.9	89.0	90.0	88.6
Southeast	80.2	97.9	98.6	98.2	85.1
Central	76.1	95.1	95.0	92.6	94.5
West	80.8	94.8	94.3	89.7	88.0
STATES					
Alabama	94.1	100.0	100.0	100.0	99.4
Arizona	91.1	98.1	9[illegible]	98.0	97.2
Arkansas	95.0	99.6	99.0	99.0	100.0
California	92.5	98.2	100.0	100.0	97.9
Colorado	90.5	99.0	98.2	98.2	98.5
Connecticut	97.3	99.7	99.4	99.0	96.9
Delaware	97.4	100.0	100.0	100.0	97.9
Dist. Columbia	83.4	96.6	93.6	97.1	92.0
Florida	94.8	99.0	99.2	99.0	97.0
Georgia	94.1	99.7	98.2	98.0	98.5
Hawaii	89.8	96.4	97.9	98.0	97.9
Idaho	90.8	98.6	96.2	97.1	97.8
Indiana	92.4	100.0	100.0	100.0	96.4
Iowa	92.4	99.6	100.0	100.0	100.0
Kentucky	91.0	99.3	96.2	96.2	99.3
Louisiana	93.8	99.7	100.0	100.0	100.0
Maine	91.4	100.0	100.0	100.0	95.9
Maryland	90.9	99.3	98.2	97.8	93.0
Massachusetts	89.7	100.0	96.5	97.9	98.2
Michigan	93.2	99.7	100.0	100.0	99.5
Minnesota	83.8	98.0	95.7	96.7	95.7
Mississippi	95.1	99.6	99.0	99.0	98.1
Missouri	95.9	99.7	100.0	100.0	98.4
Nebraska	93.8	100.0	94.4	95.2	100.0
New Hampshire	92.9	98.8	100.0	100.0	98.1
New Jersey	96.2	100.0	100.0	100.0	99.4
New Mexico	92.9	99.3	100.0	100.0	97.5
New York	94.6	100.0	100.0	100.0	100.0
North Carolina	95.3	100.0	100.0	100.0	100.0
North Dakota	96.9	100.0	100.0	100.0	100.0
Ohio	89.6	99.6	97.4	96.9	98.3
Oklahoma	91.7	99.3	99.3	99.0	100.0
Pennsylvania	97.2	100.0	100.0	100.0	100.0
Rhode Island	82.8	98.7	100.0	100.0	100.0
South Carolina	94.6	99.5	100.0	100.0	97.7
Tennessee	94.7	99.6	100.0	100.0	99.3
Texas	94.5	100.0	100.0	100.0	100.0
Utah	90.2	98.7	99.1	98.8	98.5
Virginia	90.2	99.5	99.1	99.0	100.0
West Virginia	93.3	100.0	100.0	100.0	93.4
Wisconsin	89.8	98.0	100.0	100.0	97.7
Wyoming	88.8	100.0	94.5	98.1	100.0
TERRITORIES					
Guam	90.8	96.4	79.6	83.3	77.8
Virgin Islands	84.3	91.2	100.0	100.0	89.5

TABLE B.6 | Questionnaire Response Rates (continued)

PUBLIC SCHOOLS	Grade 8 - 1990				
	Weighted Percentage of Students Matched to Mathematics Teacher Questionnaires	Percentage of Mathematics Teacher Questionnaires Returned	Weighted Percentage of Students Matched to School Characteristics/ Policies Questionnaires	Percentage of School Characteristics/ Policies Questionnaires Returned	Percentage of Excluded Student Questionnaires Returned
NATION	76	72	86	84	90
Northeast	65	60	94	88	100
Southeast	78	73	91	87	85
Central	79	80	70	75	79
West	77	72	88	88	97
STATES					
Alabama	94	91	100	100	100
Arizona	85	84	99	99	98
Arkansas	92	90	98	98	100
California	86	86	98	97	95
Colorado	85	87	99	99	100
Connecticut	89	87	99	99	96
Delaware	85	83	96	97	98
Dist. Columbia	94	87	98	97	99
Florida	88	86	98	97	97
Georgia	87	89	98	98	100
Hawaii	91	85	99	98	99
Idaho	87	87	98	99	97
Indiana	87	86	98	98	93
Iowa	89	90	99	99	99
Kentucky	93	89	100	100	100
Louisiana	90	86	99	99	100
Maine	xxx	xxx	xxx	xxx	xxx
Maryland	89	90	99	99	99
Massachusetts	xxx	xxx	xxx	xxx	xxx
Michigan	91	91	100	100	99
Minnesota	88	86	99	99	97
Mississippi	xxx	xxx	xxx	xxx	xxx
Missouri	xxx	xxx	xxx	xxx	xxx
Nebraska	89	88	99	99	99
New Hampshire	88	83	100	100	99
New Jersey	91	88	99	99	97
New Mexico	90	88	97	97	93
New York	85	86	98	99	98
North Carolina	91	90	98	98	97
North Dakota	94	87	95	97	99
Ohio	83	83	100	100	98
Oklahoma	91	91	99	99	99
Pennsylvania	87	85	98	98	97
Rhode Island	87	84	100	100	100
South Carolina	xxx	xxx	xxx	xxx	xxx
Tennessee	xxx	xxx	xxx	xxx	xxx
Texas	84	89	99	99	99
Utah	xxx	xxx	xxx	xxx	xxx
Virginia	93	93	98	97	99
West Virginia	91	88	99	99	100
Wisconsin	87	81	99	99	98
Wyoming	84	81	100	99	99
TERRITORIES					
Guam	98	85	100	100	100
Virgin Islands	88	85	100	100	100

(xxx) Did not participate in the 1990 Trial State Assessment.

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APPENDIX C

State Contextual Background Factors: Summary of Students' Characteristics by Race/Ethnicity and Type of Community and Co-Statistics From Sources External to NAEP

Overview

Appendix C presents a summary of student characteristics by race/ethnicity and type of community on a state-by-state level. To supplement the NAEP data, co-statistics have been compiled from sources external to NAEP. The statistics provide a comprehensive overview of demographic characteristics for each state, with an emphasis on the school systems. With data ranging from pupil-teacher ratios to the percentage of schools offering free lunches, Appendix C examines many of the external factors which may affect student performance.

TABLE C.1 | Characteristics of NAEP Students by Race/Ethnicity and by Type of Community

PUBLIC SCHOOLS	Grade 4 - 1992								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	69 (0.4)	17 (0.4)	10 (0.2)	3 (0.3)	2 (0.2)	9 (1.8)	10 (1.5)	13 (2.4)	67 (3.2)
Northeast	71 (2.9)	17 (2.7)	8 (1.2)	2 (0.7)	1 (0.3)	20 (5.5)	16 (5.5)	4 (1.2)	60 (8.0)
Southeast	61 (2.5)	30 (2.6)	6 (1.0)	1 (0.3)	1 (0.3)	5 (3.0)	13 (3.5)	19 (6.9)	63 (7.6)
Central	80 (1.8)	12 (1.7)	6 (0.8)	1 (0.2)	1 (0.3)	5 (2.1)	9 (1.9)	16 (3.4)	70 (4.1)
West	64 (1.7)	10 (1.7)	17 (1.6)	5 (1.0)	2 (0.3)	8 (3.7)	5 (1.3)	13 (4.7)	74 (5.7)
STATES									
Alabama	61 (2.5)	32 (2.3)	4 (0.6)	1 (0.2)	2 (1.0)	11 (3.1)	13 (3.2)	14 (4.0)	62 (5.6)
Arizona	56 (2.1)	4 (0.7)	29 (1.5)	1 (0.2)	10 (1.7)	13 (3.9)	10 (3.0)	8 (3.3)	69 (5.5)
Arkansas	69 (1.5)	21 (1.4)	6 (0.6)	1 (0.2)	3 (0.4)	1 (1.2)	6 (1.5)	25 (4.1)	68 (4.7)
California	45 (2.0)	6 (0.7)	35 (1.7)	11 (1.1)	3 (0.5)	12 (2.5)	23 (3.7)	1 (0.3)	65 (4.6)
Colorado	68 (1.5)	5 (1.0)	22 (1.3)	3 (0.3)	3 (0.3)	18 (3.2)	13 (2.9)	13 (2.7)	57 (5.0)
Connecticut	73 (1.4)	10 (1.1)	13 (1.1)	2 (0.4)	1 (0.2)	19 (4.2)	15 (3.0)	0 (0.0)	66 (5.0)
Delaware	66 (1.1)	23 (0.9)	8 (0.4)	1 (0.2)	2 (0.4)	10 (0.2)	8 (0.2)	24 (0.1)	58 (0.3)
Dist. Columbia	5 (0.4)	82 (0.6)	10 (0.4)	1 (0.2)	2 (0.3)	20 (0.3)	60 (0.4)	0 (0.0)	20 (0.3)
Florida	58 (2.2)	21 (2.0)	17 (1.3)	2 (0.4)	2 (0.3)	18 (4.4)	21 (3.9)	4 (1.3)	57 (4.5)
Georgia	56 (2.2)	35 (2.1)	6 (0.6)	1 (0.2)	1 (0.3)	10 (3.4)	15 (4.6)	12 (3.6)	63 (6.2)
Hawaii	21 (1.6)	4 (0.6)	11 (0.7)	61 (2.1)	2 (0.3)	12 (3.6)	9 (1.8)	5 (1.9)	75 (4.3)
Idaho	84 (1.2)	1 (0.2)	11 (1.0)	1 (0.2)	3 (0.3)	9 (2.6)	1 (0.9)	33 (4.9)	56 (5.5)
Indiana	82 (1.5)	10 (1.3)	5 (0.6)	1 (0.2)	1 (0.3)	8 (2.7)	10 (2.8)	15 (3.3)	68 (4.9)
Iowa	90 (0.9)	2 (0.5)	5 (0.5)	1 (0.3)	2 (0.3)	7 (2.9)	6 (2.5)	41 (3.5)	46 (4.2)
Kentucky	85 (1.6)	9 (1.3)	4 (0.6)	1 (0.2)	2 (0.3)	6 (2.7)	11 (2.7)	24 (4.2)	60 (4.8)
Louisiana	50 (2.0)	43 (2.0)	5 (0.6)	2 (0.7)	1 (0.3)	5 (2.3)	18 (2.5)	11 (2.7)	65 (3.9)
Maine	91 (0.7)	1 (0.1)	5 (0.6)	1 (0.2)	3 (0.5)	2 (1.6)	2 (1.3)	19 (4.7)	77 (4.9)
Maryland	59 (1.7)	30 (1.4)	6 (0.6)	4 (0.5)	2 (0.2)	20 (3.6)	16 (4.0)	5 (2.1)	59 (4.9)
Massachusetts	79 (1.6)	7 (0.8)	8 (0.8)	4 (0.7)	2 (0.2)	16 (3.4)	14 (2.7)	1 (0.9)	68 (4.2)
Michigan	73 (1.8)	13 (1.7)	9 (0.9)	2 (0.3)	3 (0.4)	10 (3.0)	15 (3.7)	10 (3.6)	65 (5.1)
Minnesota	85 (1.3)	3 (0.5)	7 (0.8)	2 (0.4)	2 (0.3)	12 (3.9)	3 (2.2)	29 (3.8)	56 (5.4)
Mississippi	40 (2.0)	52 (2.1)	6 (0.9)	1 (0.2)	1 (0.2)	1 (1.1)	6 (1.9)	11 (2.3)	82 (3.2)
Missouri	77 (1.7)	14 (1.7)	6 (0.5)	1 (0.2)	2 (0.4)	9 (3.0)	11 (2.9)	26 (3.9)	53 (5.3)
Nebraska	84 (1.3)	6 (0.7)	7 (0.9)	1 (0.2)	2 (0.3)	8 (2.7)	6 (1.4)	26 (3.9)	59 (4.8)
New Hampshire	89 (1.2)	1 (0.2)	5 (0.6)	1 (0.2)	3 (0.3)	8 (3.5)	1 (1.3)	4 (1.8)	86 (4.0)
New Jersey	66 (2.2)	14 (1.2)	14 (1.5)	5 (0.8)	1 (0.3)	30 (4.3)	17 (3.3)	1 (1.0)	53 (5.0)
New Mexico	44 (2.4)	4 (0.5)	47 (2.0)	1 (0.3)	4 (1.3)	11 (5.7)	9 (2.9)	4 (2.0)	77 (6.1)
New York	59 (2.2)	13 (1.6)	22 (1.7)	4 (0.8)	2 (0.4)	15 (3.7)	24 (3.7)	2 (1.6)	58 (4.7)
North Carolina	62 (1.7)	29 (1.3)	6 (0.7)	1 (0.2)	3 (0.9)	5 (1.6)	4 (1.9)	19 (4.0)	71 (4.6)
North Dakota	91 (1.0)	0 (0.2)	4 (0.6)	1 (0.2)	4 (0.8)	11 (3.1)	2 (1.4)	43 (3.6)	44 (4.3)
Ohio	79 (1.5)	11 (1.2)	6 (0.5)	1 (0.3)	2 (0.4)	10 (2.6)	18 (2.6)	17 (3.9)	55 (4.8)
Oklahoma	73 (1.5)	9 (1.2)	7 (0.8)	1 (0.2)	10 (0.8)	9 (3.1)	10 (2.6)	21 (3.6)	60 (4.6)
Pennsylvania	77 (1.6)	12 (1.6)	7 (0.8)	2 (0.4)	1 (0.3)	15 (4.9)	17 (3.4)	14 (3.8)	54 (5.6)
Rhode Island	78 (2.1)	6 (1.0)	11 (1.1)	3 (0.4)	2 (0.3)	12 (4.0)	24 (4.9)	0 (0.0)	64 (5.7)
South Carolina	55 (1.7)	37 (1.8)	6 (0.8)	1 (0.2)	1 (0.3)	6 (2.2)	6 (1.5)	13 (3.1)	74 (4.0)
Tennessee	69 (2.1)	23 (1.9)	5 (0.8)	1 (0.4)	1 (0.2)	6 (2.7)	13 (3.6)	10 (2.8)	71 (4.6)
Texas	49 (1.8)	14 (1.8)	34 (2.3)	2 (0.4)	1 (0.2)	10 (3.2)	21 (4.8)	13 (3.3)	56 (6.3)
Utah	86 (1.0)	1 (0.2)	10 (0.8)	2 (0.3)	2 (0.3)	20 (3.6)	3 (1.7)	7 (2.6)	70 (4.4)
Virginia	67 (1.4)	23 (1.3)	5 (0.6)	3 (0.4)	1 (0.3)	13 (3.1)	14 (3.1)	13 (2.7)	59 (4.7)
West Virginia	90 (0.9)	3 (0.4)	5 (0.8)	1 (0.2)	2 (0.2)	2 (1.4)	8 (2.5)	16 (3.6)	75 (4.6)
Wisconsin	81 (1.4)	6 (1.0)	7 (0.7)	2 (0.5)	3 (1.1)	9 (2.6)	7 (2.4)	26 (5.0)	58 (5.3)
Wyoming	82 (1.4)	1 (0.2)	11 (0.9)	1 (0.2)	5 (1.2)	7 (2.1)	4 (1.8)	20 (3.4)	69 (4.5)
TERRITORY									
Guam	12 (0.7)	4 (0.4)	20 (0.8)	62 (1.0)	2 (0.4)	0 (0.0)	0 (0.0)	19 (0.1)	81 (0.1)

The standard errors of the estimated percentages appear in parentheses. It can be said with 95 percent certainty that for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample.

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Characteristics of NAEP Students by Race/Ethnicity and by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1992								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	69 (0.4)	16 (0.2)	10 (0.3)	2 (0.2)	1 (0.2)	8 (2.2)	9 (1.5)	10 (2.8)	72 (3.5)
Northeast	67 (2.6)	19 (1.5)	10 (1.7)	2 (0.5)	1 (0.3)	12 (6.5)	12 (3.7)	7 (4.8)	69 (8.2)
Southeast	68 (1.8)	27 (1.8)	4 (0.7)	1 (0.3)	1 (0.2)	5 (3.5)	9 (2.5)	16 (7.2)	69 (7.9)
Central	79 (2.0)	13 (1.9)	5 (0.8)	2 (0.5)	1 (0.4)	8 (2.4)	9 (3.0)	9 (6.0)	74 (6.9)
West	63 (1.5)	8 (1.3)	21 (1.7)	5 (0.8)	2 (0.7)	7 (4.0)	9 (3.2)	8 (4.0)	76 (5.3)
STATES									
Alabama	61 (2.3)	32 (2.1)	4 (0.6)	1 (0.2)	2 (0.4)	4 (2.4)	16 (3.5)	15 (3.2)	65 (4.7)
Arizona	60 (2.1)	4 (0.5)	28 (1.6)	2 (0.3)	6 (1.3)	15 (5.3)	14 (3.1)	7 (2.2)	64 (5.8)
Arkansas	72 (1.4)	22 (1.3)	4 (0.4)	1 (0.2)	1 (0.2)	2 (1.4)	5 (1.9)	16 (3.9)	76 (4.4)
California	44 (1.8)	7 (1.1)	36 (1.7)	11 (1.0)	1 (0.2)	8 (3.2)	19 (3.2)	3 (1.9)	71 (5.1)
Colorado	74 (1.2)	4 (0.6)	18 (1.1)	2 (0.3)	2 (0.3)	18 (3.5)	10 (2.3)	13 (2.9)	60 (4.9)
Connecticut	72 (1.6)	12 (1.1)	12 (0.9)	3 (0.4)	0 (0.1)	10 (3.5)	17 (3.3)	0 (0.0)	72 (4.4)
Delaware	65 (0.9)	25 (1.1)	6 (0.6)	2 (0.3)	2 (0.3)	0 (0.0)	0 (0.0)	11 (0.1)	89 (0.1)
Dist. Columbia	3 (0.2)	85 (0.8)	10 (0.7)	1 (0.2)	1 (0.3)	7 (0.3)	67 (0.4)	0 (0.0)	25 (0.4)
Florida	56 (2.1)	23 (2.0)	18 (2.0)	2 (0.3)	1 (0.2)	7 (2.9)	17 (3.5)	6 (2.1)	69 (4.9)
Georgia	59 (2.1)	35 (1.9)	4 (0.5)	2 (0.3)	0 (0.1)	6 (1.9)	10 (2.9)	9 (2.2)	74 (4.0)
Hawaii	17 (0.9)	3 (0.3)	11 (0.7)	66 (1.1)	1 (0.2)	5 (0.1)	16 (0.4)	1 (0.0)	78 (0.4)
Idaho	88 (0.7)	1 (0.2)	8 (0.6)	1 (0.2)	3 (0.4)	4 (2.2)	5 (2.4)	29 (4.3)	62 (5.0)
Indiana	85 (1.3)	8 (1.1)	4 (0.6)	1 (0.2)	1 (0.2)	5 (2.3)	11 (2.4)	13 (2.6)	71 (4.3)
Iowa	92 (0.7)	2 (0.4)	4 (0.4)	1 (0.2)	1 (0.2)	4 (2.3)	3 (1.0)	44 (5.4)	49 (5.7)
Kentucky	87 (1.0)	9 (1.0)	3 (0.4)	1 (0.2)	1 (0.2)	3 (1.1)	12 (3.3)	15 (3.7)	70 (5.1)
Louisiana	54 (1.7)	39 (1.5)	5 (0.5)	2 (0.4)	1 (0.2)	2 (1.6)	19 (3.2)	7 (3.0)	72 (4.3)
Maine	94 (0.5)	0 (0.1)	2 (0.3)	1 (0.2)	3 (0.4)	1 (1.5)	2 (1.6)	19 (4.1)	78 (4.5)
Maryland	60 (1.8)	29 (1.8)	6 (0.6)	3 (0.5)	1 (0.2)	21 (3.8)	13 (3.5)	3 (2.6)	63 (5.6)
Massachusetts	83 (1.1)	5 (1.0)	8 (1.5)	2 (0.4)	1 (0.2)	7 (2.3)	23 (3.5)	1 (1.3)	69 (4.3)
Michigan	73 (1.6)	18 (1.9)	5 (0.8)	1 (0.3)	2 (0.3)	7 (3.0)	19 (3.1)	14 (3.8)	60 (5.2)
Minnesota	91 (1.0)	2 (0.3)	3 (0.5)	2 (0.3)	1 (0.4)	7 (3.6)	0 (0.0)	20 (4.2)	72 (5.2)
Mississippi	49 (1.9)	44 (1.8)	6 (0.6)	0 (0.1)	1 (0.2)	3 (1.8)	6 (2.7)	12 (3.1)	79 (4.6)
Missouri	82 (1.5)	12 (1.4)	3 (0.3)	1 (0.2)	2 (0.3)	7 (2.8)	12 (2.4)	13 (3.6)	68 (4.8)
Nebraska	87 (1.1)	5 (0.9)	6 (0.7)	1 (0.2)	2 (0.4)	0 (0.0)	6 (0.9)	28 (4.3)	66 (4.5)
New Hampshire	91 (1.6)	1 (0.2)	3 (0.3)	1 (0.2)	1 (0.2)	4 (1.6)	0 (0.0)	5 (2.3)	92 (2.8)
New Jersey	61 (2.5)	17 (2.4)	14 (1.5)	6 (0.7)	1 (0.2)	8 (2.8)	24 (3.3)	3 (2.3)	64 (4.7)
New Mexico	44 (1.5)	2 (0.4)	49 (1.4)	1 (0.3)	4 (0.7)	5 (0.2)	6 (2.6)	6 (2.8)	84 (3.8)
New York	61 (2.7)	17 (2.2)	14 (2.0)	4 (0.6)	1 (0.3)	11 (3.3)	16 (5.1)	10 (3.5)	63 (6.7)
North Carolina	68 (1.4)	27 (1.3)	3 (0.3)	1 (0.2)	2 (0.4)	3 (1.0)	5 (2.2)	12 (3.8)	80 (4.3)
North Dakota	93 (0.8)	0 (0.1)	3 (0.3)	1 (0.2)	3 (0.7)	8 (1.8)	0 (0.0)	33 (4.1)	53 (3.9)
Ohio	80 (1.9)	14 (1.7)	4 (0.5)	1 (0.2)	2 (0.3)	6 (2.7)	17 (3.2)	21 (5.5)	56 (6.3)
Oklahoma	75 (1.6)	8 (1.1)	6 (0.6)	2 (0.3)	10 (1.0)	2 (1.8)	5 (2.5)	19 (4.1)	74 (5.1)
Pennsylvania	83 (1.4)	11 (1.6)	3 (0.7)	1 (0.3)	1 (0.3)	4 (2.1)	15 (3.5)	13 (3.7)	68 (5.0)
Rhode Island	81 (0.7)	6 (0.6)	8 (0.4)	3 (0.4)	2 (0.3)	7 (0.1)	12 (0.1)	0 (0.0)	81 (0.1)
South Carolina	58 (1.5)	35 (1.3)	6 (0.6)	1 (0.2)	1 (0.2)	3 (1.7)	6 (2.2)	4 (1.8)	87 (3.3)
Tennessee	75 (2.0)	21 (2.1)	3 (0.3)	0 (0.1)	1 (0.2)	5 (3.3)	7 (2.6)	6 (2.4)	82 (4.0)
Texas	48 (1.9)	12 (1.6)	36 (2.0)	3 (0.4)	1 (0.3)	10 (2.9)	18 (3.9)	6 (2.6)	67 (5.5)
Utah	90 (0.9)	1 (0.2)	7 (0.6)	2 (0.3)	2 (0.2)	13 (2.4)	5 (2.2)	10 (2.4)	72 (3.9)
Virginia	69 (1.9)	22 (1.6)	5 (0.6)	4 (0.5)	1 (0.2)	9 (2.4)	13 (3.0)	14 (4.3)	63 (5.4)
West Virginia	91 (0.9)	4 (0.8)	3 (0.3)	0 (0.1)	2 (0.3)	1 (0.9)	10 (1.9)	13 (3.4)	76 (3.7)
Wisconsin	86 (1.7)	7 (1.2)	4 (0.8)	1 (0.2)	2 (0.6)	11 (5.5)	5 (1.7)	25 (5.4)	59 (6.4)
Wyoming	86 (1.7)	1 (0.2)	9 (0.6)	1 (0.2)	4 (1.6)	0 (0.0)	10 (2.6)	13 (2.9)	76 (3.8)
TERRITORIES									
Guam	5 (0.5)	1 (0.3)	15 (0.9)	76 (1.1)	1 (0.1)	0 (0.0)	0 (0.0)	11 (0.2)	89 (0.2)
Virgin Islands	1 (0.4)	77 (1.1)	21 (0.9)	0 (0.1)	0 (0.2)	0 (0.0)	0 (0.0)	27 (0.2)	73 (0.2)

»The value for 1992 was significantly higher than the value for 1990 at about the 95 percent certainty level. «The value for 1992 was significantly lower than the value for 1990 at about the 95 percent certainty level. These notations indicate statistical significance from a multiple comparison procedure based on the 37 jurisdictions participating in both 1992 and 1990. If looking at only one state, then > and < also indicate differences that are significant. Statistically significant differences between 1990 and 1992 for the state comparison samples for the nation and regions are not indicated.

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TABLE C.1 | Characteristics of NAEP Students by Race/Ethnicity and by Type of Community (continued)

PUBLIC SCHOOLS	Grade 8 - 1990								
	Percentage of Students by Race/Ethnicity					Percentage of Students by Type of Community			
	White	Black	Hispanic	Asian / Pacific Islander	American Indian	Advantaged Urban	Disadvantaged Urban	Extreme Rural	Other
NATION	70 (0.5)	16 (0.3)	10 (0.4)	2 (0.5)	2 (0.7)	10 (3.3)	10 (2.8)	10 (3.0)	70 (4.4)
Northeast	80 (4.2)	12 (4.2)	5 (1.2)	3 (1.1)	1 (0.3)	23 (7.3)	8 (5.7)	14(10.3)	55(11.2)
Southeast	63 (3.0)	32 (3.0)	3 (0.8)	1 (0.4)	0 (0.1)	0 (0.0)	2 (2.3)	9 (5.3)	89 (5.8)
Central	79 (2.6)	13 (3.2)	5 (1.0)	1 (0.4)	1 (0.4)	3 (3.1)	10 (4.3)	8 (6.0)	79 (7.7)
West	63 (1.9)	7 (2.0)	21 (1.5)	4 (1.3)	4 (2.3)	14 (8.5)	19 (7.5)	10 (3.8)	58(10.1)
STATES									
Alabama	64 (1.9)	29 (1.8)	5 (0.6)	1 (0.3)	1 (0.2)	10 (2.8)	12 (3.0)	12 (3.5)	66 (5.3)
Arizona	59 (1.8)	3 (0.4)	29 (1.3)	2 (0.3)	7 (1.5)	13 (2.7)	16 (4.0)	8 (3.0)	63 (4.7)
Arkansas	72 (1.5)	22 (1.5)	4 (0.4)	1 (0.2)	2 (0.3)	5 (2.1)	6 (2.1)	24 (3.3)	65 (4.4)
California	45 (1.8)	7 (0.8)	35 (1.4)	12 (1.1)	2 (0.4)	16 (4.5)	18 (4.5)	0 (0.0)	65 (5.9)
Colorado	73 (1.3)	4 (1.0)	19 (1.6)	2 (0.3)	2 (0.3)	29 (3.9)	6 (2.4)	15 (3.0)	50 (4.9)
Connecticut	77 (1.5)	10 (1.0)	10 (0.9)	2 (0.3)	1 (0.2)	33 (3.4)	14 (2.4)	0 (0.0)	53 (3.7)
Delaware	68 (1.0)	24 (0.9)	5 (0.5)	1 (0.2)	1 (0.3)	8 (0.1)	0 (0.0)	21 (0.2)	71 (0.2)
Dist. Columbia	3 (0.4)	84 (1.0)	10 (0.6)	1 (0.2)	2 (0.3)	17 (0.2)	67 (0.2)	0 (0.0)	17 (0.1)
Florida	60 (2.0)	20 (1.2)	17 (2.1)	2 (0.4)	1 (0.2)	15 (3.7)	18 (3.2)	8 (1.9)	59 (4.6)
Georgia	59 (1.8)	33 (1.7)	6 (0.6)	1 (0.2)	1 (0.1)	14 (3.4)	8 (2.5)	18 (3.3)	60 (5.0)
Hawaii	18 (0.8)	2 (0.3)	10 (0.6)	67 (1.0)	1 (0.2)	10 (0.1)	16 (0.2)	0 (0.0)	74 (0.2)
Idaho	90 (0.8)	0 (0.1)	6 (0.6)	1 (0.3)	2 (0.4)	4 (0.1)	3 (0.1)	27 (1.9)	67 (1.8)
Indiana	84 (1.2)	9 (1.2)	4 (0.7)	1 (0.3)	1 (0.3)	13 (3.5)	8 (3.0)	17 (2.5)	62 (5.3)
Iowa	91 (0.7)	2 (0.7)	4 (0.4)	1 (0.2)	1 (0.3)	6 (2.1)	4 (2.3)	37 (3.9)	53 (4.8)
Kentucky	85 (1.1)	9 (1.0)	4 (0.5)	1 (0.2)	1 (0.2)	7 (2.2)	10 (2.8)	33 (3.9)	49 (5.0)
Louisiana	55 (2.1)	38 (1.9)	5 (0.6)	1 (0.2)	1 (0.3)	8 (3.1)	23 (4.1)	14 (3.3)	54 (5.8)
Maine	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Maryland	59 (1.5)	28 (1.5)	7 (0.8)	4 (0.7)	1 (0.3)	28 (4.0)	18 (3.4)	4 (1.6)	50 (4.4)
Massachusetts	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Michigan	77 (1.4)	13 (1.1)	5 (0.6)	2 (0.4)	2 (0.5)	17 (3.7)	13 (3.4)	13 (2.5)	56 (4.8)
Minnesota	90 (0.9)	2 (0.5)	3 (0.4)	3 (0.4)	2 (0.5)	24 (3.3)	0 (0.0)	29 (4.6)	47 (5.3)
Mississippi	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Missouri	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Nebraska	88 (0.8)	5 (0.4)	5 (0.5)	1 (0.2)	1 (0.2)	9 (0.6)	4 (0.1)	39 (3.1)	49 (2.9)
New Hampshire	94 (0.6)	1 (0.2)	2 (0.4)	1 (0.2)	2 (0.2)	8 (0.5)	0 (0.0)	3 (0.6)	89 (0.8)
New Jersey	66 (2.0)	15 (2.0)	13 (1.0)	5 (0.6)	1 (0.2)	30 (4.5)	18 (2.5)	0 (0.0)	52 (4.8)
New Mexico	40 (1.3)	2 (0.4)	45 (1.3)	1 (0.3)	11 (0.8)	5 (0.1)	7 (0.1)	18 (0.9)	70 (0.9)
New York	60 (1.9)	17 (1.6)	17 (1.7)	4 (0.8)	1 (0.3)	15 (3.6)	29 (4.6)	3 (1.2)	53 (5.4)
North Carolina	62 (1.7)	30 (1.3)	5 (0.5)	1 (0.2)	3 (0.9)	4 (2.2)	4 (1.8)	17 (3.3)	75 (4.3)
North Dakota	91 (1.4)	1 (0.3)	3 (0.4)	1 (0.4)	5 (1.2)	9 (0.4)	3 (0.4)	37 (2.5)	50 (2.3)
Ohio	82 (0.9)	11 (0.8)	3 (0.4)	1 (0.3)	1 (0.3)	14 (3.3)	13 (1.7)	10 (2.2)	63 (4.2)
Oklahoma	74 (1.8)	11 (1.2)	5 (0.7)	2 (0.4)	9 (1.0)	11 (2.9)	9 (2.9)	22 (3.5)	59 (5.2)
Pennsylvania	81 (2.5)	12 (2.3)	5 (0.8)	1 (0.2)	1 (0.3)	12 (2.4)	14 (3.3)	7 (2.7)	67 (4.3)
Rhode Island	83 (0.8)	5 (0.5)	8 (0.5)	2 (0.3)	1 (0.2)	19 (0.4)	17 (1.7)	0 (0.0)	63 (1.4)
South Carolina	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Tennessee	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Texas	47 (2.1)	13 (1.3)	36 (2.1)	2 (0.6)	1 (0.2)	15 (3.4)	17 (3.8)	9 (2.8)	59 (5.3)
Utah	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)	xxx (xxx)
Virginia	68 (1.5)	23 (1.5)	5 (0.5)	4 (0.4)	1 (0.2)	25 (3.9)	4 (1.3)	11 (1.7)	60 (4.3)
West Virginia	90 (0.7)	3 (0.5)	4 (0.4)	1 (0.2)	2 (0.3)	0 (0.0)	11 (2.7)	19 (4.0)	70 (4.8)
Wisconsin	85 (1.2)	8 (1.1)	4 (0.3)	2 (0.3)	1 (0.2)	7 (2.4)	10 (2.2)	24 (3.2)	60 (4.1)
Wyoming	86 (0.8)	1 (0.2)	9 (0.6)	1 (0.2)	3 (0.4)	0 (0.0)	0 (0.0)	27 (0.8)	73 (0.8)
TERRITORIES									
Guam	7 (0.7)	1 (0.4)	19 (1.0)	72 (1.2)	1 (0.2)	0 (0.0)	0 (0.0)	26 (0.1)	74 (0.1)
Virgin Islands	2 (0.2)	77 (1.1)	20 (1.0)	0 (0.2)	1 (0.2)	0 (0.0)	0 (0.0)	19 (0.2)	81 (0.2)

(xxx) Did not participate in the 1990 Trial State Assessment.

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TABLE C.2 | **Population Characteristics from Non-NAEP Sources**

	Per Capita Personal Income 1991	Gross State Product per School-Age Child 1989	Percent Minority Students 1986	Resident Population Per Square Mile 1990	Percent Public School Students in Large City Population 1987-88	Percent Students Free Lunch 1987	Status Dropout Rate, Persons Ages 16-19, 1990
NATION	$19,092	$113,935	30.0	70.3	13.2	24	11.2
STATES							
Alabama	15,518	83,707	38.0	79.6	0.0	36	12.6
Arizona	16,579	97,326	37.8	32.3	24.1	23	14.3
Arkansas	14,629	78,086	25.3	45.1	0.0	30	10.9
California	20,847	133,470	46.3	190.8	21.5	26	14.3
Colorado	19,358	109,934	21.3	31.8	11.0	17	9.6
Connecticut	26,022	167,036	22.8	678.4	13.7	14	9.2
Delaware	20,816	129,563	31.7	340.8	0.0	18	11.2
Dist. Columbia	24,063	432,560	---	9882.8	100.0	---	19.1
Florida	18.992	114,340	34.6	239.6	15.2	26	14.2
Georgia	17,436	100,914	39.3	111.9	6.7	28	14.1
Hawaii	21,190	129,422	76.5	172.5	0.0	22	7.0
Idaho	15.333	72,618	7.4	12.2	0.0	19	9.6
Indiana	17,179	98,886	11.3	154.6	5.5	15	11.4
Iowa	17,296	101,299	5.4	49.7	0.0	18	6.5
Kentucky	15,626	91,980	10.8	92.8	0.0	31	13.0
Louisiana	15,046	86,869	43.5	96.9	10.5	46	11.9
Maine	17,454	106,700	1.7	39.8	0.0	16	8.4
Maryland	22.189	123,380	40.3	489.2	15.0	18	11.0
Massachusetts	23,003	156,700	16.3	767.6	7.5	16	9.5
Michigan	18,655	103,252	23.6	163.6	11.1	18	9.9
Minnesota	19.125	116,803	6.1	55.0	5.9	15	6.1
Mississippi	13,328	67,376	56.1	54.9	0.0	52	11.7
Missouri	17,928	106,924	16.6	74.3	7.5	22	11.2
Nebraska	17,718	102,016	8.6	20.5	0.0	18	6.6
New Hampshire	21,760	125,662	2.0	123.7	0.0	8	9.9
New Jersey	25,666	158,145	30.9	1042.0	10.7	17	9.3
New Mexico	14,644	79,419	56.9	12.5	0.0	35	10.8
New York	22,471	144,898	31.6	381.0	39.2	30	10.1
North Carolina	16,853	110,335	31.6	136.1	0.0	25	13.2
North Dakota	15,605	87,062	7.6	9.3	0.0	19	4.3
Ohio	17,770	103,902	16.9	264.9	7.4	18	8.8
Oklahoma	15,541	84,559	21.0	45.8	11.8	24	9.9
Pennsylvania	19,306	111,769	15.6	265.1	13.2	19	9.4
Rhode Island	19,207	116,093	12.1	960.3	16.1	17	12.9
South Carolina	15,467	87,174	45.4	115.8	0.0	32	11.9
Tennessee	16,486	100,838	23.5	118.3	21.6	26	13.6
Texas	17,230	97,886	49.0	64.9	24.3	30	12.5
Utah	14,625	61,700	6.3	21.0	0.0	14	7.9
Virginia	20,082	131,373	27.4	156.3	0.0	17	10.4
West Virginia	14,301	79,099	4.1	74.5	0.0	28	10.6
Wisconsin	17,939	104,536	13.4	90.1	8.4	17	6.9
Wyoming	16,937	111,150	9.3	4.7	0.0	14	6.3

Per Capita Income 1991 -- Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, August 1992. Data are estimates and are reported in current dollars. **Gross State Product per School-Age Child, 1989** -- Source: Gross State Product figures: *Survey of Current Business*, Volume 71, No. 12, December 1991, U.S. Department of Commerce; School-Age Child figures: *Current Population Report* Series P-25, No. 1058, U.S. Bureau of the Census. Note: Calculated using 1989 Census data for resident persons age 5-17 years. **Percent Minority Students, 1986** -- Source: *Elementary and Secondary School Civil Rights Survey, State Summaries of Projected Data*. U.S. Department of Education, Office of Civil Rights. Reprinted in *Results in Education: 1989*. National Governors' Association. **Resident Population per Square Mile, 1990** -- Source: Table 26 in *Statistical Abstract of the United States: 1991*. Washington, DC, (111th Edition), U.S. Bureau of the Census. **Percent Public School Students in Large City Population, 1987-88** -- Source: *Assigning Type of Locale Codes to the 1987-88 CCD Public School Universe*, U.S. Department of Education, National Center for Education Statistics. Reprinted in *Results in Education: 1989*. Washington, DC, National Governors' Association. **Percent Students Free Lunch, 1987** -- Source: Calculated from data provided by U.S. Department of Agriculture, Food and Nutrition Service, 1987; and *Statistical Abstract of the United States: 1987*. Reprinted in *Results in Education: 1989*. Washington, DC, National Governors' Association. **Status Dropout Rate, Persons Ages 16-19, 1990** -- Source: 1990 Census datain Table C1 in *Dropout Rates in the United States: 1991*. U.S. Department of Education, National Center for Education Statistics, 1992.

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TABLE C.3 | School System Characteristics from Non-NAEP Sources

	Current Expenditure Per Pupil 1988-89	Percent of Total Current Expenditures, by Function			Pupil-Teacher Ratio Fall 1989	Average Annual Teacher Salary	
		Instruction	Support Services	Non-Instructional		(NEA) 1989-90	(AFT) 1989-90
NATION[1]	$4,639	61.7	35.0	3.3	17.2	$31,331	$31,315
STATES							
Alabama	3,197	63.7	30.5	5.8	18.1	25,300	25,500
Arizona	3.902	58.5	39.2	2.3	18.9	29,402	29,402
Arkansas	3,273	61.7	33.7	4.7	17.0	22,352	22,471
California	4,121	59.2	37.8	3.0	22.4	37,998	37,625
Colorado	4,408	59.7	38.2	2.1	17.6	30,758	30,758
Connecticut	6,857	64.9	33.3	1.9	13.1	40,461	40,768
Delaware	5,422	67.0	30.6	2.4	16.4	33,377	33,377
Dist. Columbia	7,850	69.8	24.5	5.7	13.4	37,950	39,850
Florida	4,563	57.5	39.2	3.3	17.0	28,803	28,787
Georgia	3,852	64.5	33.5	2.1	18.3	28,006	28,013
Hawaii	4,121	61.9	33.1	5.0	19.1	32,047	32,252
Idaho	2,838	62.0	33.1	4.9	20.1	23,861	23,861
Indiana	4,284	62.3	35.5	2.2	17.5	30,378	30,978
Iowa	4,285	59.1	38.1	2.8	15.7	26,747	26,747
Kentucky	3,347	74.2	21.1	4.7	17.7	26,292	26,275
Louisiana	3,317	57.2	34.9	7.9	17.6	24,300	24,300
Maine	4,744	69.8	27.6	2.5	14.1	26,881	26,881
Maryland	5,758	62.2	35.9	2.0	16.8	36,601	36,481
Massachusetts	5.979	64.9	32.4	2.7	14.0	34,712	34,175
Michigan	5,116	57.0	40.7	2.3	19.7	36,010	36,427
Minnesota	4,755	62.5	32.9	4.6	17.2	32.190	32,190
Mississippi	2,874	63.0	29.1	7.9	18.2	24,364	24,365
Missouri	4,263	61.3	36.1	2.6	15.8	27,229	27,229
Nebraska	4,360	64.6	32.9	2.5	14.7	25,522	25,522
New Hampshire	4,807	64.3	34.4	1.3	16.2	28,986	28,986
New Jersey	7,549	64.0	33.2	2.8	13.5	35,676	35,676
New Mexico	3,473	57.5	37.3	5.2	18.3	25,120	25,302
New York	7,663	65.4	31.5	3.1	14.7	38,925	38,925
North Carolina	3,874	65.1	31.0	3.9	17.1	27,883	27,814
North Dakota	3,952	61.5	34.3	4.2	15.1	23,016	23,016
Ohio	4,649	58.3	38.5	3.1	17.4	31,218	30,567
Oklahoma	3,379	68.5	27.7	3.8	16.2	23,070	23,944
Pennsylvania	5,609	61.4	35.3	3.3	15.7	33,338	33,435
Rhode Island	5,976	67.2	30.2	2.6	14.5	36,057	36,057
South Carolina	3,736	61.7	33.1	5.1	17.0	27,217	26,638
Tennessee	3,491	70.9	22.5	6.6	19.1	27,052	27,052
Texas	3,877	60.3	35.7	3.9	16.7	27,496	27,400
Utah	2,579	66.0	30.2	3.8	24.8	23,686	23,652
Virginia	4,539	65.4	32.1	2.5	15.9	30,958	30,926
West Virginia	3,883	48.3	46.7	5.0	15.1	22,842	22,842
Wisconsin	5,266	62.8	35.3	1.8	15.9	31,921	32,600
Wyoming	5,375	60.2	38.1	1.8	14.5	28,188	28,991
TERRITORIES							
Guam	4,067	72.6	23.1	4.3	16.3	---	---
Virgin Islands	5,281	54.0	38.2	7.9	13.3	---	---

Current Expenditure per Pupil, 1988-89 -- Source: Table 159, "Current expenditure per pupil in average daily attendance in public elementary and secondary schools, by State: 1959-60 to 1988-89", *Digest of Education Statistics, 1991*. U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. Note: Amounts are in current dollars. **Percent of Total Current Expenditures, by Function** -- Source: Table 157, "Current expenditures for public elementary and secondary education, by function and State: 1988-89", *Digest of Education Statistics 1991*. U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. Note: Excludes expenditures for State education agencies. **Pupil-Teacher Ratio, Fall 1989** -- Source: Table 61, "Teachers, enrollment, and pupil-teacher ratios in public elementary and secondary schools, by State: Fall 1985 to 1989", *Digest of Education Statistics 1991*, U.S. Department of Education, National Center for Education Statistics, Common Core of Data Surveys. [1]U.S. total includes imputation for nonreporting State. Note: Teachers reported in full-time equivalents. **Average Annual Teacher Salary (NEA)** -- Source: *Estimates of School Statistics, 1990-91*, National Education Association; and Table 73, "Estimated average annual salary of teachers in public elementary and secondary schools, by State: 1969-70 to 1989-90", *Digest of Education Statistics 1991*, U.S. Department of Education, National Center for Education Statistics. **Average Annual Teacher Salary (AFT)** -- Source: *Survey and Analysis of Salary Trends, 1990*, American Federation of Teachers; and Table 74, "Minimum and average teacher salaries, by State: 1989-90", *Digest of Education Statistics, 1991*. U.S. Department of Education, National Center for Education Statistics. Note: Data in this table reflect results of surveys conducted by the American Federation of Teachers. Because of differing survey and estimation methods, these data are not entirely comparable with figures appearing in other columns and tables.

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TABLE C.4 | Curricula and School Policies from Non-NAEP Sources

	Length of the School Year 1990	Length of the School Day, Grades 7-8 1990	Units Required in Mathematics 1990	Units Required in Science 1990	Competency Test Required 1990
STATES					
Alabama	175	6.0	2.0	2.0	YES
Arizona	175	6.0	2.0	2.0	NO
Arkansas[1]	178	5.5	2.0[1]	2.0[1]	YES
California	180	5.0	2.0	2.0	YES
Colorado	1080 HRS	-.-	-.-	-.-	NO
Connecticut	180	4.0	3.0	2.0	NO
Delaware	180	6.0	2.0	2.0	NO
Dist. Columbia	180	6.0	2.0	2.0	NO
Florida	180	5.0	3.0	3.0	NO
Georgia	180	6.0	2.0	2.0	YES
Hawaii	180	6.0	2.0	2.0	YES
Idaho	180	5.5	2.0	2.0	NO
Indiana	180	6.0	2.0	2.0	NO
Iowa	180	5.5	-.-	-.-	NO
Kentucky	175	6.0	3.0	2.0	NO
Louisiana	180	5.5	3.0	3.0	YES
Maine	175	5.0	2.0	2.0	YES
Maryland	180	6.0	3.0	2.0	NO
Massachusetts	180	5.0	-.-	-.-	NO
Michigan	180	-.-	-.-	-.-	NO
Minnesota	175	6.0	1.0	1.0	NO
Mississippi	180	-.-	2.0	2.0	YES
Missouri	174	3.0-7.0	2.0	2.0	NO
Nebraska	1010 HRS	-.-	-.-	-.-	YES
New Hampshire	180	5.5	2.0	2.0	NO
New Jersey	180	4.0	3.0	2.0	YES
New Mexico	180	6.0	3.0	2.0	YES
New York	180	5.5	2.0	2.0	YES
North Carolina	180	5.5	2.0	2.0	YES
North Dakota	180	5.5	2.0	2.0	NO
Ohio	182	5.5	2.0	1.0	NO
Oklahoma	175	6.0	2.0	2.0	NO
Pennsylvania	180	5.5	3.0	3.0	NO
Rhode Island	180	5.5	2.0	2.0	NO
South Carolina	180	6.0	3.0	2.0	YES
Tennessee	180	6.5	2.0	2.0	YES
Texas	175	7.0	3.0	2.0	YES
Utah	180	5.5	2.0	2.0	NO
Virginia[1]	180	5.5	2.0[1]	2.0[1]	NO
West Virginia	180	5.5	2.0	2.0	NO
Wisconsin	180	6.5	2.0	2.0	NO
Wyoming	175	6.0	-.-	-.-	NO
TERRITORIES					
Guam	-.-	-.-	-.-	-.-	-.-
Virgin Islands	180	6.5	2.0	2.0	-.-

Source: Council of Chief State School Officers 1990 Policies and Practices Questionnaire. Tables 13, 14, and 16 in *State Education Indicators, 1990*. Washington, DC, Council of Chief State School Officers. (-.-) No statewide policy. [1]A fifth unit of either science or mathematics is required.

APPENDIX D

Overview of Procedures Used in the 1992 Mathematics Assessments

Overview

This appendix provides further information about the methods and procedures used in NAEP's 1992 mathematics assessment. The *NAEP 1992 Technical Report* and the *Technical Report of the 1992 Trial State Assessment in Mathematics* provide more extensive information about procedures.

NAEP's 1992 Mathematics Assessment

As described earlier in the report, the framework underlying NAEP's 1992 mathematics assessment was initially developed for the 1990 assessment and subsequently approved for use in both assessments by the National Assessment Governing Board. It was developed through a consensus process managed by the Council of Chief State School Officers, and the items were developed through a similarly broad-based process managed by Educational Testing Service. The development of the mathematics assessments, including the Trial State Assessment Program, benefited from the involvement of hundreds of representatives from State Education Agencies who attended numerous NETWORK meetings; served on committees; reviewed the framework, objectives, and questions; and in general, provided important suggestions on all aspects of the program.

The mathematics assessment framework is a five-by-three matrix specifying five content areas -- Numbers and Operations; Measurement; Geometry; Data Analysis, Statistics, and Probability; and Algebra and Functions, plus three process or ability areas. These include Conceptual Understanding, Procedural Knowledge, and Problem Solving (for brief descriptions, see Chapter Three).[13] TABLES D.1 and D.2 show the approximate percentage distribution of questions by content area, mathematical ability, and grade.

TABLE D.1 Percentage Distribution of Questions by Grade and Content Area

Content Area	Grade 4	Grade 8	Grade 12
Numbers and Operations	45	30	25
Measurement	20	15	15
Geometry	15	20	20
Data Analysis, Statistics, and Probability	10	15	15
Algebra and Functions	10	20	25

---

[13] *Mathematics Objectives, 1990 Assessment* (Princeton, NJ: National Assessment of Educational Progress, Educational Testing Service, 1988).

TABLE D.2 Percentage Distribution of Questions by Grade and Mathematical Ability

Mathematical Ability	Grade 4	Grade 8	Grade 12
Conceptual Understanding	40	40	40
Procedural Knowledge	30	30	30
Problem Solving	30	30	30

Including all types of questions, the 1992 mathematics assessment for both the nation and states included 183 items at grade 4, 235 items at grade 8, and 231 items at grade 12. At grade 4, 59 of the questions required students to construct brief answers and 5 required lengthier explanations of the reasoning used. There were 99 multiple-choice questions as part of the main portion of the assessment and another 20 comprised the estimation portion of the assessment, which was administered via a paced audiotape timed to encourage students to estimate rather than "work out" their answers. At grade 8, there were 65 regular constructed-response questions and 6 requiring extended work. There also were 118 regular multiple-choice questions and 46 estimation multiple-choice questions. The twelfth-grade assessment contained 64 regular constructed-response questions, 6 extended constructed-response questions, 115 regular multiple-choice questions, and 46 estimation multiple-choice questions.

The Assessment Design

Each student received a booklet containing a set of general background questions, a set of subject-specific background questions, three 15-minute segments or blocks of cognitive items, and a set of questions about his or her motivation and familiarity with the assessment material. At each grade level, the mathematics assessment included 16 different blocks of multiple-choice and constructed-response content questions. Students received different blocks of cognitive items in their booklets according to a careful plan. The 1992 assessment was based on an adaptation of matrix sampling called balanced incomplete block (BIB) spiraling -- a design that enables broad coverage of mathematics content while minimizing the burden for any one student. The balanced incomplete block part of the design assigns blocks of items to booklets and each pair of blocks appears together in at least one booklet. The spiraling part of the method cycles the booklets for administration, so that typically only a few students in any assessment session receive the same booklet.

Thirteen of the 16 blocks were assembled in accordance with this design, whereby the 13 blocks were presented in 26 booklets. Each block appeared in exactly six booklets, and each block appeared with every other block in at least one booklet. Students at grades 4 and 8 were given calculators to use with three of the 13 blocks and were trained in their use prior to the assessment. Students at grade 12 were given calculators to use with four of the 13 blocks. At the fourth grade, students were provided with four-function calculators and at grades 8 and 12, they were provided with scientific calculators. For another of the blocks, fourth-grade students were provided with a ruler, and eighth- and twelfth-grade students with a protractor/ruler. For still another of the blocks, at all three grades, students were given geometric shapes (manipulatives) to provide a concrete basis for determining their answers.

For the national assessment, the three remaining blocks at each grade used a paced-audiotape format to measure students' estimation skills and to move students through some word problems at grade 4 as well as material measuring data analysis, probability, and statistics and pre-algebra at the two upper grades. For the estimation block, the pacing method curtails time for computations and in more complex problem situations, it facilitates instances where students might have difficulty in reading the question or might spend too little or too much time on particular questions. The three blocks accompanied by the audiotape were assembled into one booklet at each grade. Of the 16 blocks, five were carried forward from 1990 to use in measuring trends across time, including four of the 13 BIB spiraled blocks and the estimation block.

The Trial State Assessments at grades 4 and 8 used the same 26 BIB-spiraled booklets as the national assessment at each of the two grades, including the blocks with special materials -- calculators, protractor/rulers, and geometric shapes -- and the four trend blocks to monitor changes in eighth-grade performance. The students within an assessment session were assigned booklets in the order in which the booklets were spiraled. Thus, students in any given session received a variety of different booklets and only a small number of students in the session received the same booklet. Following this administration, all students at both grades were given a special booklet with the estimation block. This special booklet was administered using the same paced audiotape developed for the national assessment. However, since the estimation block was not included in the grade 8 1990 Trial State Assessment, state-level trends are not available on that block. In total, there were 14 blocks of mathematics questions in the 1992 Trial State Assessment, which was twice the size of the 1990 program. The additional scope provided time for a greater number of, and more challenging constructed-response questions, some of which required students to spend as much as five minutes reasoning about and explaining their answers in words and diagrams.

Each booklet in the national and Trial State Assessments included three student background questionnaires. The first, consisting of general background questions, included questions about race/ethnicity, mother's and father's level of education, reading materials in the home, homework, attendance, academic expectations, and which parents lived at home. The second, consisting of mathematics background questions, included questions about instructional activities, courses taken, use of specialized resources such as calculators in mathematics class, and views on the utility and value of the subject matter. Students were given five minutes to complete each questionnaire, with the exception of the fourth graders, who were given more time because the items in the general questionnaire were read aloud for them. The third questionnaire, newly developed for 1992, followed the three cognitive blocks and contained five questions about students' motivation to do well on the assessment, their perceptions concerning the difficulty of the assessment, and their familiarity with types of questions included.

Teacher and School Questionnaires

As part of the 1992 mathematics assessment, including the Trial State Assessment Program, questionnaires were given to the mathematics teachers of the fourth- and eighth-grade students participating in the assessment and to the principal or other administrator in each participating school. An expert panel developed guidelines for the school and teacher questionnaires focusing on five educational areas: instructional content, instructional practices and experiences, teacher characteristics, school conditions and contexts, and conditions beyond school (i.e., home support, out-of-school activities, and attitudes).[14] Similar to the development of the materials given to students, the policy guidelines and the teacher and school questionnaires were prepared through an iterative process that involved extensive development, field testing, and review by external advisory groups. The questionnaires for mathematics teachers consisted of two parts. The first requested information about the teacher, such as race/ethnicity and gender as well as academic degrees held, teaching certification, training in mathematics, and ability to get instructional resources. In the second part, teachers were asked to provide information on each class they taught that included one or more students who participated in the assessment. The information included, among other things, the amount of time spent on mathematics instruction and homework, the extent to which textbooks or worksheets were used, the instructional emphasis placed on different mathematical topics, and the use of various instructional approaches. Because the sampling for the questionnaires was based on participating students, the responses to the mathematics teacher questionnaire do not necessarily represent all fourth- or eighth-grade mathematics teachers in the nation, or in a state or territory. Rather, they represent teachers of the representative sample of students assessed.

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[14] National Assessment of Educational Progress, *1992 Policy Information Framework* (Princeton, NJ: National Assessment of Educational Progress, Educational Testing Service, 1992).

The extensive school questionnaire completed by principals or other administrators in the participating schools at all three grades, including the Trial State Assessment schools at grades 4 and 8, contained questions about the experience of individuals completing the questionnaire, school policies, course offerings, and special priority areas and resources, among other topics.

It is important to note that in this report, as in all NAEP reports, the student is always the unit of analysis, even when information from the teacher or school questionnaire is being reported. Using the student as the unit of analysis makes it possible to describe the instruction received by representative samples of students. Although this approach may provide a different perspective from that obtained by simply collecting information from teachers or schools, it is consistent with NAEP's goal of providing information about the educational context and performance of students.

National Sampling

Sampling and data collection activities for the 1992 NAEP assessment were conducted by Westat, Inc. As with all NAEP national assessments, the results for the national samples were based on a stratified, three-stage sampling plan. The first stage included defining geographic primary sampling units (PSUs), which are typically groups of contiguous counties, but sometimes a single county; classifying the PSUs into strata defined by region and community type; and randomly selecting PSUs. For each grade, the second stage included listing, classifying, and randomly selecting schools, both public and private, within each PSU selected at the first stage. The third stage involved randomly selecting students within a school for participation. Some students who were selected (fewer than 6 percent) were excluded because of limited English proficiency or severe disability. In 1984, NAEP began collecting descriptive information on these excluded students in order to describe this group more fully. Further information about excluded students will be available in the *NAEP 1992 Technical Report*. The criteria for excluding students are provided in a subsequent section of this Appendix.

In 1992, the assessment was conducted from January through March, with some make-up sessions in early April. In 1990, the sample at each grade consisted of two equivalent half samples. The assessment was administered to the first half sample in the January to mid-March time frame, while it was administered to the second half sample in the mid-March to mid-May time frame. The first half sample from 1990 was used for trend purposes to provide a more precise basis for comparison in terms of the time of year of the assessment.

TABLE D.3 presents the student and school sample sizes and the cooperation and response rates for the national assessments.

TABLE D.3 Student and School Sample Sizes, 1992 and 1990

	Number of Participating Schools		Percent of Schools Participating		Number of Students		Percent of Student Completion	
Grade	1992	1990	1992	1990	1992	1990	1992	1990
4	527	527	86	88	8,738	8,902	93	93
8	406	406	84	87	9,432	8,888	89	89
12	304	304	81	81	8,499	8,862	81	81
Total	1,237	1,237			26,669	26,472		

Although sampled schools that refused to participate were occasionally replaced, school cooperation rates were computed based on the schools originally selected for participation in the assessments. The rates, which are based on schools sampled for all subjects assessed in 1992 (reading, writing, and mathematics) and 1990 (reading, science, and mathematics), are also the best estimates for the mathematics assessment. The student completion rates represent the percentage of students assessed of those invited to be assessed in mathematics, including those assessed in follow-up sessions, when necessary. In 1992, the BIB-spiraled portion of the assessment (13 blocks, 26 booklets) was administered to 7,176 students at grade 4; 7,663 students at grade 8; and 6,973 students at grade 12. In 1990, of the participating schools, 790 were public schools, and 447 were Catholic and other private schools. In 1992, 944 were public schools, and 638 were Catholic and other private schools.

Trial State Assessment Sampling

Identical to the procedures used for the 1990 Trial State Assessment Program at grade 8, for the 44 jurisdictions participating in the 1992 Program including both grades 4 and 8, the basic design was to select a sample of 100 public schools from each state, with a sample of 30 students drawn from each school. In the eighth grade, up to three sessions (90 students) were selected from large schools to better represent this school type. For states with small numbers of schools, and no or very small schools, all schools were included in the sample with certainty. In the fourth grade, all the eligible fourth-grade schools in the District of Columbia, Delaware, and Guam were taken into the sample with certainty. In the eighth grade, all the eligible schools were taken from the District of Columbia, Delaware, Hawaii, Rhode Island, Guam, and the Virgin Islands.

In states where a sample of schools was drawn, schools were stratified by urbanicity, minority strata (which varied by state and urbanicity level), and median income. Special procedures were used for small schools and for identifying and including new schools in the sampling frame for each jurisdiction. To minimize the potential for nonresponse bias, substitutes for nonparticipating schools were selected on a one-by-one basis to be similar to the original school in terms of urbanicity, percent Black enrollment, percent Hispanic enrollment, median household income, and total fourth- or eighth-grade enrollment. Furthermore, the substitute school was selected from the same district whenever possible.

A systematic equal probability sample of the desired number of students (usually 30, but sometimes more) was drawn from each school, yielding a sample size in excess of 2,500 students for each participating state and territory. The state assessments were conducted during February.

Full information about school and student participation rates for each state (including the District of Columbia) and territory is contained in Appendix B. Appendix B also contains comparable information for the national and regional subsamples used in this report as a basis for comparison to states and territories. More specifically, these results are based only on students attending public schools (not private schools). A discussion of the variation in participation rates is found in the *Technical Report of the 1992 Trial State Assessment in Mathematics*.

Excluded Students

It is NAEP's intent to assess all selected students. Therefore, all selected students who are capable of participating in the assessment should be assessed. However, some students sampled for participation in NAEP are excluded from the sample according to carefully defined criteria. Specifically, some of the students identified as having Limited English Proficiency (LEP) or having an Individualized Education Plan (IEP) may be incapable of participating meaningfully in the assessment. These students are identified as follows:

LEP students may be excluded if:

- The student is a native speaker of a language other than English; AND
- He or she has been enrolled in an English-speaking school for less than two years; AND
- The student is judged to be incapable of taking part in the assessment.

IEP students may be excluded if:

- The student is mainstreamed less than 50 percent of the time in academic subjects and is judged to be incapable of taking part in the assessment, OR
- The IEP team has determined that the student is incapable of taking part meaningfully in the assessment.

When there is doubt, the student is included in the assessment.

For each student excluded from the assessment, including those in the 1990 and 1992 Trial State Assessment Programs, school personnel complete a questionnaire about the characteristics of that student and the reason for exclusion.

Data Collection

As with all NAEP assessments, data collection for the 1992 assessment was conducted by a trained field staff. For the national assessment, this was accomplished by Westat staff. However, in keeping with the legislative requirements of the Trial State Assessment Program, the state mathematics assessments involving approximately 111,000 fourth graders and 109,000 eighth graders in about 9,000 schools were conducted by personnel from each of the participating states. NAEP's responsibilities included selecting the sample of schools and students for each participating state, developing the administration procedures and manuals, training the personnel who would conduct the assessments, and conducting an extensive quality assurance program.

Each participating state and territory was asked to appoint a State Coordinator to be the liaison between NAEP and participating schools. The State Coordinator was asked to gain cooperation of the selected schools, assist in scheduling, provide information necessary for sampling, and notify personnel about training. At the local school level, the administrators, usually school or district staff, were responsible for attending training, identifying excluded students, distributing school and teacher questionnaires, notifying sampled students and their teachers, administering the assessment session, completing the necessary paperwork, and preparing the materials for shipment.

Westat staff trained assessment administrators within the states in three and one-half hour sessions that included a videotape and practice exercises to provide uniformity in procedures. Almost 10,000 persons who were to be assessment administrators were trained in about 500 training sessions around the nation.

To provide quality control across states, a randomly selected 50 percent of the state assessment sessions were monitored by approximately 400 quality control monitors, who were also trained Westat staff. The identity of the schools to be monitored was not revealed to state, district, or school personnel until shortly before the assessment was to commence. The analysis of the results for the unmonitored schools as compared to the monitored schools yielded no systematic differences that would suggest different procedures were used. See the *Technical Report of the 1992 Trial State Assessment in Mathematics* for details and results of this analysis.

Scoring

Materials from the 1992 assessment, including the Trial State Assessment Program, were shipped to National Computer Systems in Iowa City for processing. Receipt and quality control were managed through a sophisticated bar-coding and tracking system. After all appropriate materials were received from a school, they were forwarded to the professional scoring area, where the responses to the open-ended items were evaluated by trained staff using guidelines prepared by NAEP. Each open-ended question had a unique scoring guide that defined the criteria to be used in evaluating students' responses. Of the regular constructed-response items, some were scored right/wrong, but the majority included several different categories of correct and incorrect responses. The extended constructed-response questions were evaluated on a scale of 1 to 5, permitting degrees of partial credit to be given. For the national mathematics assessment and the Trial State Assessment Program approximately 4 million students responses were scored, including a 20 percent reliability sample. The overall percentage of agreement between readers for both the national and trial state assessment reliability samples was 94 percent. For the constructed-response questions contained in the trend blocks, training was conducted using materials and scoring guides identical to those used for the 1990 assessment. To provide information about reliability between assessment years, 100 booklets from each of the 40 states that participated in the 1990 Trial State Assessment Program were chosen at random to be scored again in 1992. Based on the 4,000 responses to each of the 25 questions rescored in 1992, the exact percentage of agreement was 96 percent. Subsequent to the professional scoring, the booklets were scanned, and all information was transcribed to the NAEP database at ETS. Each processing activity was conducted with rigorous quality control.

Data Analysis and IRT Scaling

After the assessment information had been compiled in the database, the data were weighted according to the population structure. The weighting for the national and state samples reflected the probability of selection for each student as a result of the sampling design, adjusted for nonresponse. Through poststratification, the weighting assured that the representation of certain subpopulations corresponded to figures from the U.S. Census and the Current Population Survey.[15]

Analyses were then conducted to determine the percentages of students who gave various responses to each cognitive and background question. Item response theory (IRT) was used to estimate average proficiency for the nation, various subgroups of interest within the nation, and for the states and territories.

IRT models the probability of answering an item correctly as a mathematical function of proficiency or skill. The main purpose of IRT analysis is to provide a common scale on which performance can be compared across groups, such as those defined by grades, and subgroups, such as those defined by race/ethnicity or gender. Because of the BIB-spiraling design used by NAEP, students do not receive enough questions about a specific topic to provide reliable information about individual performance. Traditional test scores for individual students, even those based on IRT, would lead to misleading estimates of population characteristics, such as subgroup means and percentages of students at or above a certain proficiency level. Instead, NAEP constructs sets of plausible values designed to represent the distribution of proficiency in the population. A plausible value for an individual is not a scale score for that individual but may be regarded as a representative value from the distribution of potential scale scores for all students in the population with similar characteristics and identical patterns of item response. Statistics describing performance on the NAEP proficiency scale are based on these plausible values. They estimate values that would have been obtained had individual proficiencies been observed--that is,

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For additional information about the use of weighting procedures in NAEP, see Eugene G. Johnson, "Considerations and Techniques for the Analysis of NAEP Data" in Journal of Educational Statistics (December 1989).

had each student responded to a sufficient number of cognitive items so that proficiency could be precisely estimated.[16]

For the 1992 assessment, a scale ranging from 0 to 500 was created to report performance for each content area. The scales summarize examinee performance across all three item types used in the assessment (multiple-choice, regular constructed-response, and extended constructed-response). In producing the scales, three distinct IRT models were used. Multiple-choice items were scaled using the three-parameter logistic model; regular constructed-response items were scaled using the two-parameter logistic model; and the extended constructed-response items were scaled using a generalized partial-credit model. Each content-area scale was based on the distribution of student performance across all three grades assessed in the 1990 national assessment (grades 4, 8, and 12) and had a mean of 250 and a standard deviation of 50. A composite scale was created as an overall measure of students' mathematics proficiency. The composite scale was a weighted average of the five content area scales, where the weight for each content area was proportional to the relative importance assigned to the content area in the specifications developed by the Mathematics Objectives Panel as shown in previously in TABLE D.1.

As described earlier, the NAEP proficiency scales make it possible to examine relationships between students' performance and a variety of background factors measured by NAEP. The fact that a relationship exists between achievement and another variable, however, does not reveal the underlying cause of the relationship, which may be influenced by a number of other variables. Similarly, the assessments do not capture the influence of unmeasured variables. The results are most useful when they are considered in combination with other knowledge about the student population and the educational system, such as trends in instruction, changes in the school-age population, and societal demands and expectations.

Linking the Trial State Results to the National Results

Although the assessment booklets used in the Trial State Assessment Program were identical to those used in the national assessment, the various differences between the national and trial state assessments, including those in administration procedures, required that careful and complex equating procedures based on a special design be used to create an appropriate basis for comparison between the national and state results.

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[16] For theoretical justification of the procedures employed, see Robert J. Mislevy, ETS Research Report *Randomization-Based Inferences About Latent Variables form Complex Samples,"* Psychometrika, 56(2), 177-196. Service, 1988).

For computational details, see *Focusing the New Design. NAEP 1988 Technical Report* (Princeton, NJ: Educational Testing Service, National Assessment of Education Progress, 1990) and the *1990 NAEP Technical Report*.

The results from the Trial State Assessment were linked to those from the national assessment through a linking function determined by comparing the results for the aggregate of students assessed in the Trial State Assessment (except those in Guam and the Virgin Islands) with the results for students in the State Aggregate Comparison subsample of the national assessment. This subsample is representative of the population of all grade-eligible public-school students within the aggregate of the 41 participating states and the District of Columbia who were assessed as part of the national assessment.

The linking was accomplished for each subscale by matching the mean and standard deviation of the subscale proficiencies across all students in the Trial State Assessment (excluding Guam and the Virgin Islands) to the corresponding subscale mean and standard deviation across all students in the State Aggregate Comparison subsample.

Reanalysis of 1990 Results

An enhanced version of the statistical procedures employed in 1990 was used to obtain results for the 1992 mathematics assessment. Preliminary research with simulated data and experience with selected reanalyses of previously reported 1990 NAEP data sets suggested that small, but consistent, differences in the results produced by the two sets of procedures would be obtained. The nature and magnitude of such differences would have little or no effect on state-to-state and state-to-nation comparisons. However, certain within-state comparisons between 1992 and 1990 would be affected to a degree that is not ignorable. In order to maintain the integrity of the 1990 NAEP mathematics scales for trend analysis, a decision was made to reanalyze the 1990 results and report revised figures. The 1990 estimates given in the 1992 NAEP mathematics reports, including the present report, are based on the reanalyzed 1990 results. In the vast majority of cases, the reanalyzed results will differ trivially, if at all, from those originally reported and the magnitudes of the differences between the original and reanalyzed results rarely exceed a standard error. Slightly larger, but still modest, differences between the original and reanalyzed results may be observed for the composite scale standard deviations and proportions of students at or above NAEP anchor levels. Since the process of setting achievement levels was newly conducted for 1992, these figures will also differ from results published in 1990.

Effects of Excluded and Absent Students

The aim of NAEP is to collect performance and other information about the students assessed and from these draw inferences to the characteristics of all students in a variety of populations, such as the grade 4 students in the United States. Although survey sampling techniques are used to draw samples of students that are representative of the populations of interest, not all students selected for the assessment actually participate.

Certain selected students are judged by school authorities as being incapable of meaningfully participating in the assessment. Students satisfying specific guidelines are allowed to be excluded from the assessment. Excluded students are a subset of those with an Individualized Education Plan or who are classified as Limited English Proficient for whom the assessment format would not permit a meaningful evaluation of their proficiency. Consequently, the assessment results pertain only to the population of students who, if selected, would not be excluded from the assessment.

In addition to students excluded from the assessment, other students will be absent from the assessment session. Absent students include those who left the session too early or arrived too late to take most of the assessment, those at school during the day of the assessment who failed to attend the session, and students absent from school due to illness, truancy, or other planned or unplanned absences. Absent students are included in the population to which proficiency measures pertain through the use of student-level nonresponse adjustments. These adjustments are made by forming weighting classes based on the characteristics of the students and of the schools they attend and then inflating the sampling weights of the assessed students within each weighting class to reflect the contribution of the absent students within that class. The representativeness of the NAEP results depends on the extent to which absent and assessed students within the same weighting class resemble each other in terms of their distributions of proficiency. Studies on the characteristics of absent students from various national assessments suggest that the bulk of the absent students do resemble the assessed students in terms of their proficiency.[17]

The representativeness of the assessment results are thus determined by the percents of excluded and absent students and by their characteristics. An additional complication occurs when measuring changes in achievement over time. The interpretation of comparisons of achievement between two or more assessments depends on the comparability of the populations assessed at each point in time. For example, even if the proficiency distribution of the entire population at time 2 was unchanged from that at time 1, an increase in the rate of exclusion would produce an apparent gain in the reported average proficiencies between the two time points if the excluded students tend to be lower performers.

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[17] Keith F. Rust and Eugene G. Johnson, Sampling and Weighting in the National Assessment, Journal of Educational Statistics, 1992, 111-129.

Tables D.4 and D.6 provide information about the potential effects of exclusion and absenteeism on the 1990 and the 1992 national mathematics results. Each table is for one of the grades 4, 8, or 12 and shows:

> 1) Selected percentiles of the distribution of overall mathematics proficiency for each year. These are the reported percentiles and are based only on the nonexcluded students with weighting class nonresponse adjustments for the absent students. Also included are the between-year differences in the percentiles.
>
> 2) The percentages of students excluded or absent from the assessment for each year.
>
> 3) Recomputed percentiles for the distribution of all students (assessed, excluded, and absent) under the assumption that all excluded and all absent students, had they been assessed, would have scored below the 25th percentile of all students. The selected students original sampling weights (before nonresponse adjustment) were used in these calculations. These percentiles provide a lower bound to what the actual percentiles would be if all students were assessed.

The tables show that the exclusion rates increased between 1990 and 1992 at all three grades but that the absentee rate decreased. As is to be expected, the combined impact of assuming all excluded and absent students would score below the 25th percentile is to reduce the percentiles, with the greatest reduction occurring for the lower percentiles. More to the point for the measurement of change across time is that the between-year differences in the recomputed percentiles are generally close to the between-year differences for the reported percentiles, particularly for grades 4 and 8, and especially when the standard errors of the percentiles are taken into account. Consequently, changes in exclusion and absentee rates generally had minimal impact on the measurement of changes in the distribution of proficiency between 1990 and 1992.

TABLE D.4 Percentiles of Overall Mathematics Proficiency Under Two Treatments of Excluded and Absent Students, Grade 4

	A: Percentiles for nonexcluded students with nonresponse adjustment for absent students*					Percent	
	25th	50th	75th	90th	95th	excluded	absent
1992	197.1(1.0)	220.1(1.0)	241.1(1.2)	258.9(0.8)	269.4(1.5)	6.7	6.2
1990	192.8(1.0)	213.9(1.1)	234.7(1.1)	253.2(1.5)	263.9(1.7)	5.2	6.8
difference	4.3	6.1	6.4	5.7	5.5	1.5	-0.6
	B: Percentiles assuming that all excluded and absent students would score below the 25th percentile						
	25th	50th	75th	90th	95th		
1992	184.3	214.9	238.4	257.3	266.5		
1990	181.4	209.3	232.0	251.6	260.9		
difference	2.9	5.6	6.4	5.7	5.6		

* standard errors in parentheses

TABLE D.5 Percentiles of Overall Mathematics Proficiency Under Two Treatments of Excluded and Absent Students, Grade 8

	A: Percentiles for nonexcluded students with nonresponse adjustment for absent students*					Percent	
	25th	50th	75th	90th	95th	excluded	absent
1992	242.3(1.3)	268.5(1.4)	293.8(0.9)	314.6(1.0)	326.3(1.8)	5.9	10.2
1990	238.7(1.8)	263.6(1.2)	288.0(1.1)	307.1(1.9)	319.2(1.6)	5.3	10.6
difference	3.6	4.9	5.8	7.5	7.1	0.6	-0.4
	B: Percentiles assuming that all excluded and absent students would score below the 25th percentile						
	25th	50th	75th	90th	95th		
1992	225.2	260.7	289.6	311.1	323.5		
1990	220.8	256.4	284.0	303.8	316.0		
difference	4.4	4.3	5.6	7.3	7.5		

* standard errors in parentheses

TABLE D.6 **Percentiles of Overall Mathematics Proficiency Under Two Treatments of Excluded and Absent Students, Grade 12**

	A: Percentiles for nonexcluded students with nonresponse adjustment for absent students*					Percent	
	25th	50th	75th	90th	95th	excluded	absent
1992	275.0(1.4)	299.9(1.2)	323.2(1.3)	342.6(1.3)	353.6(1.3)	4.1	17.6
1990	269.9(1.3)	295.5(1.5)	319.2(1.4)	339.6(1.6)	350.5(3.1)	3.6	19.3
difference	5.1	4.4	4.0	3.0	3.1	0.5	-1.7
	B: Percentiles assuming that all excluded and absent students would score below the 25th percentile						
	25th	50th	75th	90th	95th		
1992	250.8	289.8	318.2	339.5	351.0		
1990	241.8	284.3	313.1	335.6	348.1		
difference	9.0	5.5	5.1	3.9	2.9		

* standard errors in parentheses

NAEP Reporting Groups

This report contains results for the nation, participating states, and groups of students within the nation and states defined by shared characteristics. The definitions for subgroups as defined by race/ethnicity, size and type of community, parents' education level, gender, and region follow.

Race/Ethnicity. Results are presented for students of different racial/ethnic groups based on the students' self-identification of race/ethnicity according to the following mutually exclusive categories: White, Black, Hispanic, Asian/Pacific Islander, and American Indian (including Alaskan Native). Based on criteria described in the following section, at least 62 students in a particular subpopulation must participate in order for the results for that subpopulation to be considered reliable. State results for racial/ethnic groups with fewer than 62 students are not reported. For the nation, some racial/ethnic group results are not reported for background variables, because this further breakdown results in too few students. However, the data for all students, regardless of whether their racial/ethnic group was reported separately, were included in computing the overall national or state level results.

Type of Community. Results are provided for four mutually exclusive community types -- advantaged urban, disadvantaged urban, extreme rural, and other -- as described below. According to information about parents' occupation obtained from the Principal's Questionnaire completed by each sampled school, indices are developed such that for each assessment approximately the 10 percent of the most extreme advantaged urban, disadvantaged urban, and rural schools are classified into the first three categories. The remaining approximately 70 percent of the schools are classified into the "other" category. Reporting of results by each type of community was subject to the procedure based on a minimum student sample size of 62.

Advantaged Urban: Students in this group reside in metropolitan statistical areas and attend schools where a high proportion of the students' parents are in professional or managerial positions.

Disadvantaged Urban: Students in this group reside in metropolitan statistical areas and attend schools where a high proportion of the students' parents are on welfare or are not regularly employed.

Extreme Rural: Students in this group do not reside in metropolitan statistical areas. They attend schools in areas with a population below 10,000 where many of the students' parents are farmers or farm workers.

Other: Students in the "Other" category attend schools in areas other than those defined as advantaged urban, disadvantaged urban, or extreme rural.

Because of the methods underlying the development of this background variable, the cutpoints for the indices defining approximately the most extreme 10 percent of the advantaged urban, disadvantaged urban, and rural schools can change from assessment to assessment. Thus, to see if this had an impact on the trends from 1990 to 1992, in particular, the significant decline in average proficiency for the eighth graders attending schools in disadvantaged urban communities, NAEP also analyzed the results using the 1990 indices. The findings are shown below in Table D.7.

TABLE D.7 Average Mathematics Proficiency by Type of Community Using 1990 Criteria

	Grade 4		Grade 8		Grade 12	
	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency	Percentage of Students	Average Proficiency
Advantaged Urban						
1992 Using 1992 Index	12 (1.8)	237 (2.1)	10 (1.8)	288 (3.6)	12 (2.1)	316 (2.6)
1992 Using 1990 Index	12 (1.8)	238 (2.1)	13 (1.9)	287 (3.0)	12 (2.1)	316 (2.6)
1990	11 (1.5)	231 (3.0)!	11 (2.9)	280 (3.2)!	9 (2.8)	306 (6.2)!
Disadvantaged Urban						
1992 Using 1992 Index	9 (1.4)	193 (2.8)	9 (1.3)	238 (2.6)<	10 (1.4)	279 (2.4)
1992 Using 1990 Index	13 (1.7)	197 (2.1)	14 (1.6)	248 (3.6)	10 (1.4)	279 (2.4)
1990	10 (1.5)	195 (3.0)	10 (2.5)	249 (3.8)!	10 (2.7)	276 (6.0)!
Extreme Rural						
1992 Using 1992 Index	12 (2.2)	216 (3.6)	9 (2.6)	267 (4.6)!	12 (1.6)	293 (1.9)
1992 Using 1990 Index	12 (2.2)	216 (3.6)	8 (2.3)	264 (4.7)!	14 (1.9)	294 (1.9)
1990	10 (1.9)	214 (4.9)	9 (2.8)	257 (4.4)!	10 (3.2)	293 (3.3)!
Other						
1992 Using 1992 Index	66 (3.0)	219 (0.9)>	72 (3.1)	268 (1.1)>	66 (3.0)	300 (0.9)>
1992 Using 1990 Index	63 (3.2)	220 (0.9)>	65 (3.4)	269 (1.3)>	64 (3.2)	300 (0.9)>
1990	70 (3.6)	213 (1.1)	70 (3.9)	262 (1.7)	71 (4.4)	295 (1.3)

> The value for 1992 was significantly higher than the value for 1990 at about the 95 percent confidence level. < The value for 1992 was significantly lower than the value for 1990 at about the 94 percent confidence level. ! Interpret with caution -- the nature of the sample does not allow accurate determination of the variability of this estimated statistic. The standard errors of the estimated percentages and proficiencies appear in parentheses. It can be said with 94 percent certainty for each population of interest, the value for the whole population is within plus or minus two standard errors of the estimate for the sample. In comparing two estimates, one must use the standard error of the difference (see Appendix for details).

The results show that average proficiency by type of community in 1992 was virtually the same regardless of which method was used to determine the index cutpoints at both grades 4 and 12. However, at grade 8, for students attending schools in disadvantaged urban areas the average proficiency differs by the approach to defining the variable. Using the criteria of approximately the 10 percent extreme disadvantaged urban schools, there was a decline in average proficiency for these students between 1990 and 1992. Using the same criteria as were used in 1990 there appeared to be a larger (but not statistically significant) percentage of students attending schools in disadvantaged urban communities, and as a whole, their average proficiency was about the same between the two assessments. Nevertheless, for the most extreme percentage of students, they were more disadvantaged according to the NAEP criteria and had lower average mathematics proficiency.

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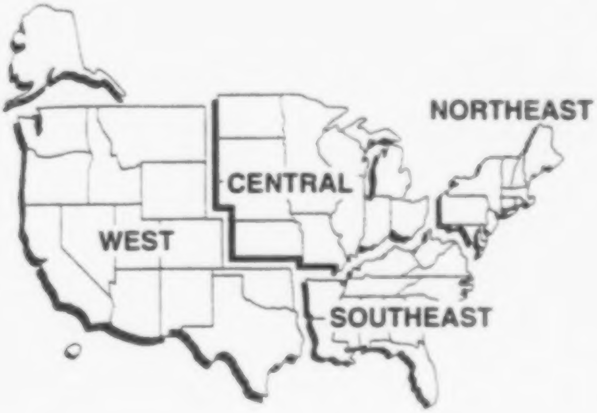
Parents' Education Level. Students were asked to indicate the extent of schooling for each of their parents -- did not finish high school, graduated high school, had some education after high school, or graduated college. The response indicating the higher level of education for either parent was selected for reporting.

Gender. Results are reported separately for males and females. Gender was reported by the student.

Region. The United States has been divided into four regions: Northeast, Southeast, Central, and West. States in each region are shown on the following map.



Minimum Subgroup Sample Sizes

As described earlier, results for mathematics proficiency and background variables were tabulated and reported for groups defined by race/ethnicity and type of community, as well as by gender and parents' education level. However, in many states or territories and for some regions of the country, the number of students in some of these population subgroups was not sufficiently high to permit accurate estimation of proficiency and/or background variable results. As a result, data are not provided for the subgroups with very small sample sizes. For results to be reported for any subgroup, a minimum sample size of 62 students was required. This number was determined by computing the sample size required to detect an effect size of .2 at the 5 percent significance level, with a probability of .8 or greater.

Estimating Variability

Because the statistics presented in this report are estimates of group and subgroup performance based on samples of students, rather than the values that could be calculated if every student in the nation answered every question, it is important to have measures of the degree of uncertainty of the estimates. Two components of uncertainty are accounted for in the variability of statistics based on proficiency: the uncertainty due to sampling only a relatively small number of students and the uncertainty due to sampling only a relatively small number of mathematics questions. The variability of estimates of percentages of students having certain background characteristics or answering a certain cognitive question correctly is accounted for by the first component alone.

In addition to providing estimates of percentages of students and their proficiency, this report also provides information about the uncertainty of each statistic. Because NAEP uses complex sampling procedures, conventional formulas for estimating sampling variability that assume simple random sampling are inappropriate and NAEP uses a jackknife replication procedure to estimate standard errors. The jackknife standard error provides a reasonable measure of uncertainty for any information about students that can be observed without error, but each student typically responds to so few items within any content area that the proficiency measurement for any single student would be imprecise. In this case, using plausible values technology makes it possible to describe the performance of groups and subgroups of students, but the underlying imprecision that makes this step necessary adds an additional component of variability to statistics based on NAEP proficiencies.[18]

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[18] For further details, see Eugene G. Johnson, "Considerations and Techniques for the Analysis of NAEP Date" in *Journal of Educational Statistics* (December 1989).

The reader is reminded that, like all surveys, NAEP results are also subject to other kinds of errors including the effects of necessarily imperfect adjustment for student and school non-response and other largely unknowable effects associated with the particular instrumentation and data collection methods used. Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all selected students in all selected schools in the sample (some students or schools refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information, mistakes in recording, coding, or scoring, data; and other errors of collecting, processing, sampling, and estimating missing data. The extent on nonsampling errors is difficult to estimate. By their nature, the impacts of such error cannot be reflected in the data-based estimates of uncertainty provided in NAEP reports.

Achievement Levels

Setting achievement levels is a method for setting standards on the NAEP assessment that identifies what students should know and should be able to do at various points along the proficiency scale. The method depends on securing and summarizing a set of judgmental ratings of expectations for student educational performance on specific items. The NAEP proficiency scale is a numerical index of students' performance in mathematics ranging from 0 to 500 and has 3 achievement levels-Basic, Proficient, and Advanced-mapped onto it for each grade level assessed.

In developing the threshold values for the levels, a broadly constituted panel of 68 judges-including 50 percent teachers, 20 percent non-teacher educators, and 30 percent non-educators-rated a grade-specific item pool using the Board's policy definitions for Basic, Proficient, and Advanced.[19] The policy definitions are as follows:

- **BASIC**—This level, below proficient, denotes partial mastery of the knowledge and skills that are fundamental for proficient work at each grade.

- **PROFICIENT**—This central level represents solid academic performance for each grade tested. Students reaching this level have demonstrated competency over challenging subject matter and are well prepared for the next level of schooling.

- **ADVANCED**—This higher level signifies superior performance beyond proficient grade-level mastery at each grade.

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[19] Non-educators represented business, labor, government service, parents, and the general public.

The policy definitions were operationalized by the judges in terms of specific mathematical skills, knowledge, and behaviors that were in accordance with the current mathematics assessment framework, and were generally agreed to be appropriate expectations for students in each grade at each level (See Chapter One). The judges' operationalized definitions were incorporated into lists of descriptors that represented what borderline students should be able to do at each of the policy levels. The purpose of having panelists develop their own operational definitions of the achievement levels was to ensure that all panelists would have a common understanding of borderline performances and a common set of content-based referents to use during the item rating process.

The judges (24 at grade 4, 22 at grade 8, and 22 at grade 12) each rated half of the items in the NAEP pool in terms of the expected probability that a student at a borderline achievement level would answer the item correctly, based on the judges' operationalization of the policy definitions and the factors that influence item difficulty. To assist the judges in generating consistently-scaled ratings, the rating process was repeated twice, with feedback. Information on consistency among different judges and on the difficulty of each item[20] was fed back into the first repetition (round 2), while information on consistency within each judge's set of ratings was fed back into the second repetition (round 3). The third round of ratings permitted the judges to discuss their ratings among themselves to resolve problematic ratings. The mean final rating of the judges aggregated across items yielded the threshold values in the percent correct metric. These cut scores were then mapped onto the NAEP scale (which is defined and scored using item response theory, rather than percent correct) to obtain the scale scores for the achievement levels. The judges' ratings, in both metrics, and their associated errors of measurement are shown below in TABLE D.8. The Board accepted the panel's achievement levels and, for reporting purposes, set final cutpoints one standard error (a measure of consistency among the judges ratings) below the mean levels.

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[20] Item difficulty estimates were based on a preliminary, partial set of responses to the national assessment.

TABLE D.8 Cutpoints for Achievement Levels

Grade	Level	Mean Percent Correct (Round 3)	Scale Score (From Mean Percents)	Standard Error of Scale Score	Scale Score Cutpoint for Reporting
4	Basic	39	213	1.9	211
4	Proficient	65	252	4.1	248
4	Advanced	84	284	4.0	280
8	Basic	48	258	2.4	256
8	Proficient	71	300	5.7	294
8	Advanced	87	336	4.8	331
12	Basic	44	291	4.2	287
12	Proficient	70	335	0.2	334
12	Advanced	88	367	0.7	366

After the ratings were completed, the judges for each grade level reviewed the operationalized descriptions developed by the judges of the other grade levels as well as their own descriptions and came up with achievement level descriptions that were generally acceptable to all three grade-group judges. However, the descriptions varied in format, sharpness of the language, and degree of specificity of the statements. Therefore, another panel at a subsequent validation meeting improved the wording and modified the language of the achievement level descriptions to reflect more closely the terminology of the *NCTM Standards* for mathematics.[21]

Finally, for each achievement level, exemplar items needed to be selected that reflected the kinds of tasks that examinees at or above the level were likely to be able to perform successfully. While the judges discussed items and made recommendations, the task of final selection was put to a subsequent validation panel. Several criteria were used to select items as candidates for exemplars. From the pool of items scheduled for public release, items were deleted that students were more likely to get wrong than right (p-value ≤ .50). Remaining items that did not match any of the descriptions were also deleted. A few items were deleted that did not have increasing p-values from Basic, to Proficient, to Advanced. The validation panels then reviewed the matched and classified item sets and selected exemplars based on the quality of the items, the way the items collectively represented the subscales, and the appropriateness of the items to the grade (for items administered to more than one grade). In Chapter One, FIGURES 1.1 through 1.3 provide the final descriptions of the three achievement levels for each grade, along with exemplar items to illustrate what students at each level should be able to perform. In principle, the descriptions of the levels, though based on the 1992 item pool, apply to the current assessment framework and will not change from year to year (that is, until the framework changes). However, the sample items reflective of the levels will need to be updated each time the assessment is administered.

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[21] National Council of Teachers of Mathematics, *Curriculum and Evaluation Standards for School Mathematics*, (Reston, VA: National Council of Teachers of Mathematics, 1989)

Scale Anchoring

As implemented for the 1990 and 1992 mathematics assessments, NAEP's scale anchoring procedure was based on comparing item-level performance by students at four levels on the 0 to 500 mathematics composite scale -- Levels 200, 250, 300, and 350.[22] In brief, the analyses delineated four sets of about 50 anchor items each that discriminated between adjacent performance levels on the scale.[23] The four sets of empirically derived anchor items were studied by panels of mathematics educators who carefully considered and articulated the types of knowledge, skills, and reasoning abilities that were demonstrated by correct responses to the items in each set. These descriptions, together with example anchor items, are then used in conjunction with the percentages of students performing at or above the four levels to convey a concise interpretation of the scale results.

To provide a sufficient pool of respondents at each anchor level for the analyses, students performing at Level 200 on the scale were more broadly defined as those whose estimated mathematics proficiency was between 187.5 and 212.5, students at 250 were defined as those with estimated proficiency between 237.5 and 262.5, those at 300 had estimated proficiencies between 287.5 and 312.5, and those at 350 between 337.5 and 362.5. In theory, anchor levels above 350 or below 200 could have been described; however, so few students in the assessment performed at the extreme ends of the scale that it was not possible to do so.

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[22] Ina V.S. Mullis, John A. Dossey, Eugene H. Owen, and Gary W. Phillips, *The State of Mathematics Achievement, NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States* (Washington, D.C.: U.S. Department of Education, 1991).

Ina V.S. Mullis, John A. Dossey, Eugene H. Owen, and Gary W. Phillips, *The 1992 Mathematics Report Card* (Washington, D.C.: U.S. Department of Education, 1993).

Albert E. Beaton and Nancy L. Allen, "Interpreting Scales through Scale Anchoring," *Journal of Educational Statistics*, 1992, 17, pp. 191-204.

[23] In 1992, 22 items anchored at Level 200 and another 8 almost anchored (also considered, since they nearly satisfied the anchoring criteria), at Level 250 there were 45 anchor items and 27 that almost anchored, at Level 300 there were 59 anchor items and 29 that almost anchored, and at Level 350 there 43 items and 34 that almost anchored. Of the 432 items included in the process, 165 did not anchor. In 1990, the totals of anchored and almost anchored items were: 43 at Level 200, 46 at Level 250, 64 at Level 300, and 43 at Level 350. Of the 275 items used in the process, 79 did not anchor.

After identifying the fourth, eighth, and twelfth graders performing at the four anchor levels on the scale, two kinds of information were computed for these students for each item -- the actual number of students at each of the levels included in the analysis and the percentage of them who answered the item correctly (weighted in accordance with the sampling design). Thus, for each item, a p-value is computed separately for the students performing at each anchor level (four p-values for each item, as shown later in this section). These analyses were performed for each grade level at which the item was administered, and for the grade levels combined, if the item was administered at more than one grade level.

Based on the p-values for each anchor level, the following criteria were used to identify the items that discriminated between scale levels; that is, the items that students at one anchor level were more likely to answer correctly than were students at the next lower level.

Because it was the lowest level being defined, Level 200 was not analyzed in terms of the next lower level, but was examined for the percentage of students at that level answering the item correctly. More specifically, for an item to anchor at Level 200:

1) At least 65 percent of the students at Level 200 got the item right.

2) At least 100 students were available for the analysis.

The first criterion was established so that items associated with a level were those for which students at that level would have demonstrated at least some degree of success (at least 65 percent or about two-thirds), and therefore, those above the level would have an even higher degree of success. The second criterion provides stability for the p-value estimates.

For an item to anchor at the remaining levels, additional criteria had to be met. For example, to anchor at Level 250:

1) Sixty-five percent or more of the students at Level 250 got the item right.

2) At least 30 percent fewer students at Level 200 than at Level 250 got the item right.

3) At least 50 percent of the students at Level 200 got the item wrong.

4) At least 100 students at both Levels 200 and 250 were available for the analysis.

The same principles were used to identify anchor items at Levels 300 and 350. With the additional criteria, NAEP was trying to find items fairly likely to be answered correctly by answered correctly by students at one level, but unlikely at the levels below. Essentially, for any given anchor item, students at the anchor level are likely to answer the question correctly (65 percent or more likely), while those at the next lower level are less likely to answer the question correctly (at least 30 percent less likely). Also, students at the next lower level are somewhat likely to get the item wrong (at least half of them). Collectively, as identified through this procedure, the mathematics items at each anchor level represented advances in students' understandings from one level to the next -- mathematical topics where students at that level were more likely to answer items correctly than were students at the next lower level.

In preparation for use by panelists, the items were assembled with their full anchoring documentation and scoring guide (for open-ended items) and placed in notebooks by anchor-level order concluding with the "did not anchor" items. Within anchor level, the items were arranged in accordance with the classifications contained in the objectives framework. From 15 to 20 panelists, representing mathematicians; mathematics educators at the college, secondary, and elementary levels; and state and district mathematics supervisors; met for three days to systematically identify the mathematical knowledge, understanding, and problem-solving abilities demonstrated by the students in answering each item correctly. These descriptions were then summarized to develop the characterizations of performance for each anchor level. After being briefed in the anchoring process and given their assignment, panelists worked independently in two groups to analyze the items, draft their descriptions of performance for each anchor level, and select illustrative items to support their descriptions. On the third day, panelists and staff worked together as a whole to combine the two independently derived sets of descriptions.

Each of the two times this process was used, both groups agreed that the two drafts were very similar. However, the cross-validation process is helpful and permits more individuals to be involved in the process. It also should be noted that although the 1992 assessment was designed to measure trends from 1990, the anchoring process was conducted to update the descriptions to reflect some evolution in the 1992 items. Some items in the 1992 assessment had been carried forward from 1990, but others were newly developed measures of the mathematics framework intended to reflect improvements in ways of assessing mathematics achievement. Therefore, as anticipated, the 1992 descriptions are very similar to the 1990 descriptions, but there are variations.

Drawing Inferences from the Results

The use of *confidence intervals,* based on the standard errors, provides a way to make inferences about the population means and proportions in a manner that reflects the uncertainty associated with the sample estimates. An estimated sample mean proficiency ± 2 standard errors represents a 95 percent confidence interval for the corresponding population quantity. This means that with approximately 95 percent certainty, the average performance of the entire population of interest is within ± 2 standard errors of the sample mean.

As an example, suppose that the average mathematics proficiency of students in a particular group was 256, with a standard error of 1.2. A 95 percent confidence interval for the population quantity would be as follows:

Mean ± 2 standard errors = 256 ± 2 • (1.2) = 256 ± 2.4 =
256 - 2.4 and 256 + 2.4 = 253.6, 258.4

Thus, one can conclude with 95 percent certainty that the average proficiency for the entire population of students in that group is between 253.6 and 258.4.

Similar confidence intervals can be constructed for percentages, provided that the percentages are not extremely large (greater than 90) or extremely small (less than 10). For extreme percentages, confidence intervals constructed in the above manner may not be appropriate, however, procedures for obtaining accurate confidence intervals are quite complicated. Thus, comparisons involving extreme percentages should be interpreted with this in mind.

To determine whether there is a real difference between the mean proficiency (or proportion of a certain attribute) for two groups in the population, one needs to obtain an estimate of the degree of uncertainty associated with the difference between the proficiency means or proportions of these groups for the sample. This estimate of the degree of uncertainty -- called the standard error of the difference between the groups -- is obtained by taking the square of each group's standard error, summing these squared standard errors, and then taking the square root of this sum.

Similar to the manner in which the standard error for an individual group mean or proportion is used, the standard error of the difference can be used to help determine whether differences between groups in the population are real. The difference between the mean proficiency or proportion of the two groups ± 2 standard errors of the difference represents an approximate 95 percent confidence interval. If the resulting interval includes zero, there is insufficient evidence to claim a real difference between groups in the population. If the interval does not contain zero, the difference between groups is statistically significant (different) at the .05 level.

The procedures described in this section, and the certainty ascribed to intervals (e.g., a 95 percent confidence interval) are based on statistical theory that assumes that only one confidence interval or test of statistical significance is being performed. When one considers sets of confidence intervals, like those for the average proficiency of all participating states and territories, statistical theory indicates that the certainty associated with the entire set of intervals is less than that attributable to each individual comparison from the set. If one wants to hold the certainty level for a specific set of comparisons at a particular level (e.g., .95), adjustments (called multiple-comparisons procedures) need to be made. One such procedure -- the Bonferroni method -- was used to form confidence intervals for the differences between the average proficiency of states that became the basis of the "higher than, same as, and lower than" figures in Chapters One and Three.

The Bonferroni method was also implemented in determining significant differences across assessment years and among population subgroups of the national samples. Comparisons of proficiency means and comparisons of percentages above achievement levels were treated as separate comparison sets or families, as were comparisons of percentile locations as well as comparisons of proficiency means, percentages at or above achievement levels, and population percentages in each demographic subgroup. For comparisons of demographic subgroups a comparison set or family size was defined by the number of classifications within that variable. A more detailed description of the use of the Bonferroni procedure appears in the *Technical Report for the 1992 Trial State Mathematics Assessment*, including the conventions used in determining family size for the various types of tables contained in NAEP reports.

The standard errors for means and proportions reported by NAEP are statistics and subject to a certain degree of uncertainty. In certain cases, typically when the standard error is based on a small number of students or when the group of students is enrolled in a small number of schools, the amount of uncertainty associated with the standard errors may be quite large. Throughout this report, estimates of standard errors subject to a large degree of uncertainty are designated by the symbol "!". In such cases, the standard errors -- and any confidence intervals or significance tests involving these standard errors -- should be interpreted cautiously.

APPENDIX E

Mean Proficiencies, Standard Deviations, and Percentiles for National Demographic Subpopulations

NAEP 1990 and 1992 Math Assessments — Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 4

		Mean	Std. Dev.	5th	10th	25th	50th	75th	90th	95th
Total	**1992**	218.5(0.7)>	32.4(0.4)	162.4(1.1)	175.3(0.9)	197.1(1.0)>	220.1(1.0)>	241.1(1.2)>	258.9(0.8)>	269.4(1.5)
	1990	213.1(0.9)	31.8(0.7)	158.6(1.9)	171.0(1.6)	192.8(1.0)	213.9(1.1)	234.7(1.1)	253.2(1.5)	263.9(1.7)
Sex										
Male	**1992**	219.7(0.8)>	33.3(0.5)	162.0(1.9)	175.0(1.4)	197.8(1.2)	221.6(1.0)>	242.9(1.5)>	260.9(1.6)>	271.8(1.6)
	1990	213.5(1.2)	32.7(0.9)	157.3(2.2)	169.6(3.0)	192.9(1.7)	215.0(1.3)	235.6(1.3)	253.7(1.6)	265.5(3.1)
Female	**1992**	217.3(1.0)>	31.5(0.5)	162.8(1.8)	175.5(1.1)	196.5(1.0)	218.7(1.5)>	239.3(1.3)	256.7(1.1)	266.5(0.7)
	1990	212.5(1.1)	30.7(0.8)	160.5(2.5)	172.2(2.0)	192.8(1.4)	212.9(1.0)	233.6(1.8)	252.5(2.2)	262.7(3.4)
Race/Ethnicity										
White	**1992**	226.8(0.9)>	29.1(0.4)	176.7(1.8)	188.6(1.4)>	207.8(1.3)>	228.1(0.8)>	246.5(1.1)>	262.7(1.1)	272.5(1.2)
	1990	220.4(1.1)	29.1(0.8)	171.1(2.2)	183.1(1.4)	201.5(1.8)	220.8(1.4)	240.2(1.3)	257.1(3.2)	267.6(2.6)
Black	**1992**	191.5(1.3)	28.8(0.8)	143.6(2.4)	154.0(3.4)	171.8(1.8)	191.8(1.7)	210.4(1.8)	227.9(2.7)	238.4(1.5)
	1990	189.1(1.8)	28.4(1.0)	141.9(2.9)	152.5(2.7)	169.4(2.3)	190.0(1.9)	208.2(1.7)	225.4(2.7)	235.9(2.4)
Hispanic	**1992**	200.8(1.4)	30.2(0.7)	149.6(2.2)	161.7(2.1)	180.7(1.5)	201.5(1.6)	221.5(2.6)	239.7(2.4)	249.8(3.3)
	1990	198.0(2.0)	31.7(1.3)	143.4(4.3)	155.8(3.0)	176.7(5.0)	199.5(1.9)	219.3(2.5)	237.7(2.0)	247.7(4.4)
Asian American/	**1992**	231.3(2.4)	31.4(1.5)	173.2(7.6)	188.1(4.8)	212.1(8.3)	233.2(3.8)	253.6(5.7)	270.5(4.3)	280.5(10.2)
Pacific Islander	**1990**	227.6(3.5)	30.1(3.1)	184.6(21.5)	194.4(3.9)	206.4(4.1)	226.1(6.2)	247.2(5.6)	268.8(9.5)	280.2(22.9)
American Indian/	**1992**	209.1(3.2)	31.0(2.0)	158.3(10.2)	169.9(5.8)	191.2(3.3)	208.4(2.6)	227.7(5.4)	247.5(6.0)	264.1(21.6)
Alaskan Native	**1990**	207.6(3.9)	27.9(2.4)	157.0(12.2)	169.1(5.2)	189.1(12.2)	209.9(9.0)	230.0(8.4)	241.2(4.9)	246.5(12.2)
Parents' Education Level										
Less Than HS	**1992**	203.9(2.6)	29.5(1.9)	153.9(5.8)	164.8(9.2)	185.1(3.9)	205.0(2.8)	224.7(1.9)	241.6(3.9)	250.0(6.2)
	1990	202.1(3.7)	32.8(2.7)	145.7(34.2)	158.4(8.8)	179.2(3.1)	203.3(5.9)	226.9(4.5)	246.6(18.1)	253.7(4.0)
Graduated HS	**1992**	213.1(1.5)>	30.5(0.9)	161.1(3.2)	172.8(2.7)	192.6(2.8)	215.4(1.3)>	234.2(1.6)	251.3(2.7)	262.1(2.8)
	1990	208.5(1.5)	28.9(1.3)	158.9(3.3)	171.6(2.0)	190.2(3.8)	209.9(1.5)	228.3(1.6)	245.4(2.6)	254.0(2.4)
Education After HS	**1992**	223.5(1.5)	31.2(1.3)	166.0(11.5)	181.7(3.0)	204.3(3.0)	227.2(1.5)	245.1(2.1)	259.4(4.9)	268.8(5.2)
	1990	221.8(2.5)	31.5(1.6)	164.2(5.0)	180.0(2.8)	203.0(5.0)	223.4(5.0)	242.1(3.4)	261.2(6.7)	272.3(5.2)
Graduated College	**1992**	225.6(1.0)>	33.1(0.6)	166.4(2.0)	181.3(2.1)	204.5(1.2)	227.9(1.2)>	248.4(1.5)	266.2(1.6)	276.4(2.1)
	1990	220.7(1.5)	32.6(0.9)	163.9(4.0)	177.2(1.9)	200.4(2.6)	221.6(1.6)	243.9(1.3)	261.8(1.4)	271.8(4.0)
Unknown	**1992**	212.8(0.8)>	30.9(0.6)	160.5(2.0)	172.0(1.3)	192.3(0.8)>	213.5(0.9)>	234.6(1.4)	252.2(1.4)	261.3(1.3)>
	1990	207.2(1.2)	29.9(1.0)	156.6(3.2)	167.8(2.2)	188.2(1.0)	207.8(1.3)	228.1(2.4)	244.4(2.8)	253.7(2.0)
School Ranking										
Top Third	**1992**	236.6(0.8)>	26.6(0.5)	192.1(3.9)	202.5(0.9)>	219.2(1.3)>	237.0(0.7)>	254.5(1.2)	270.1(1.1)	279.3(1.9)
	1990	229.4(1.4)	27.3(1.0)	184.3(2.7)	194.7(1.5)	211.6(2.2)	228.4(1.5)	247.9(3.1)	265.1(2.0)	274.4(3.6)
Middle Third	**1992**	219.5(0.7)>	28.5(0.6)	171.4(1.6)	182.5(1.1)	200.3(0.9)	220.4(0.9)>	239.2(1.2)>	255.1(1.3)>	264.4(2.2)
	1990	213.8(1.0)	27.2(0.8)	167.3(3.3)	178.1(2.3)	196.1(1.6)	213.9(1.3)	232.6(1.2)	248.1(1.7)	257.1(2.4)
Lower Third	**1992**	196.3(1.2)	29.6(0.4)	146.8(2.4)	157.6(1.4)	176.0(1.1)	197.1(1.2)	216.9(1.4)	233.7(1.3)	243.4(2.1)
	1990	194.0(1.7)	31.1(1.1)	142.5(5.7)	154.0(3.5)	172.5(3.1)	194.2(2.1)	214.3(2.9)	233.8(3.0)	246.2(3.3)

Note: > Indicates a significant increase (or decrease "<") between 1990 and 1992.

NAEP 1990 and 1992 Math Assessments — Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 4 (Cont'd)

		Mean	Std. Dev.	5th	10th	25th	50th	75th	90th	95th
Type of Community										
Extreme Rural	**1992**	216.3(3.6)	31.4(1.2)	160.7(4.3)	171.6(3.1)	195.4(6.6)	219.6(4.4)	238.5(2.4)	255.6(4.3)	265.1(2.9)
	1990	214.1(4.9)	30.3(2.1)	160.7(2.5)	175.8(9.9)	195.1(4.9)	215.5(7.5)	235.3(4.5)	251.3(6.4)	261.4(8.2)
Disadvantaged Urban	**1992**	192.9(2.8)	29.7(1.1)	143.2(4.8)	153.9(4.9)	172.9(2.8)	193.7(4.2)	212.8(3.3)	230.5(4.6)	241.3(3.6)
	1990	194.7(3.0)	30.6(1.1)	142.3(4.1)	154.1(2.5)	173.3(3.1)	195.9(5.0)	215.7(3.5)	233.4(3.8)	244.3(7.7)
Advantaged Urban	**1992**	237.4(2.1)	29.2(1.4)	188.9(4.6)	199.9(2.3)	218.1(2.4)	238.1(2.3)	256.9(2.9)	273.8(2.3)	285.7(4.0)
	1990	231.3(3.0)	28.8(1.6)	180.5(5.2)	193.9(8.6)	212.9(2.9)	232.6(2.3)	251.4(4.5)	267.5(6.3)	277.0(10.9)
Other	**1992**	219.1(0.9)>	31.1(0.5)	165.7(2.1)	178.1(1.4)	198.7(1.3)>	220.6(1.0)>	240.7(1.2)>	257.6(1.2)>	267.4(1.0)
	1990	212.7(1.1)	31.0(0.9)	159.8(3.9)	171.9(2.8)	193.0(1.1)	213.5(1.3)	233.8(1.3)	251.9(1.5)	262.7(2.6)
Ability of Students in Class										
High Ability	**1992**	237.7(2.5)	31.0(1.9)	187.3(2.5)	197.9(4.3)	215.9(2.6)	238.8(3.0)	259.4(1.5)	276.4(9.2)	287.0(3.6)
	1990	236.1(5.1)	31.2(2.3)	178.6(7.4)	194.8(16.2)	214.7(9.9)	237.5(5.4)	259.0(6.6)	273.6(11.7)	284.8(6.5)
Average Ability	**1992**	221.6(1.3)>	29.5(0.7)	170.5(3.2)	183.3(1.4)	202.6(1.2)>	222.9(1.6)	242.0(1.6)	258.1(1.8)	268.0(2.1)
	1990	214.6(1.7)	29.9(1.1)	161.8(2.6)	175.0(3.8)	196.2(1.4)	216.2(2.0)	234.4(4.3)	252.3(2.6)	262.4(3.4)
Low Ability	**1992**	195.9(2.0)	32.8(1.5)	142.7(5.7)	153.8(4.5)	171.6(1.8)	195.8(2.7)	218.7(3.2)	239.9(3.7)	250.8(2.7)
	1990	201.8(3.7)	31.0(1.9)	151.0(4.0)	162.3(5.5)	181.3(9.5)	202.4(4.5)	221.9(5.1)	241.1(4.3)	253.1(5.7)
Mixed Ability	**1992**	216.8(1.2)>	30.8(0.7)	163.6(2.1)	175.8(1.9)	196.0(1.4)	218.4(1.4)	238.2(1.4)	255.5(1.7)	264.8(2.0)
	1990	212.5(1.6)	30.5(0.8)	160.6(3.3)	172.0(4.3)	192.2(1.6)	213.8(2.2)	233.3(2.3)	250.8(2.9)	260.6(1.8)
Region										
Northeast	**1992**	223.1(2.0)>	33.4(1.3)	166.0(2.8)	179.4(3.1)	201.0(2.0)	224.9(2.8)	246.8(3.0)	264.2(3.4)	275.0(3.0)
	1990	214.8(2.9)	31.6(1.8)	161.0(5.2)	174.4(5.5)	195.2(2.6)	214.8(4.8)	235.4(3.4)	254.9(7.3)	265.9(3.2)
Southeast	**1992**	210.1(1.6)>	32.3(0.9)	155.5(2.0)	167.0(1.9)	187.9(1.9)	211.0(2.4)	232.2(1.4)	250.5(1.5)	261.6(4.6)
	1990	204.7(2.1)	32.6(1.4)	149.1(4.6)	162.0(3.8)	183.2(2.3)	205.5(2.8)	227.8(5.0)	246.1(3.2)	257.0(2.0)
Central	**1992**	223.2(1.9)>	30.0(0.9)	170.2(5.2)	183.6(2.8)	203.7(3.2)	224.8(2.8)	244.2(2.6)	260.2(1.5)	270.1(1.7)
	1990	216.3(1.7)	30.2(1.5)	164.0(4.7)	175.2(4.4)	197.2(2.9)	217.4(1.0)	236.4(1.5)	254.5(1.9)	264.2(3.1)
West	**1992**	217.8(1.5)	32.6(0.8)	161.9(2.1)	173.9(2.2)	196.0(1.9)	220.1(1.6)	240.2(2.0)	258.2(2.4)	268.3(2.2)
	1990	216.2(2.4)	31.3(1.1)	162.4(2.1)	175.5(3.4)	195.7(4.1)	216.9(2.6)	237.4(2.5)	255.9(5.1)	267.9(6.2)
Type Of School										
Public	**1992**	217.3(0.8)>	32.8(0.5)	161.0(1.5)	173.5(0.7)	195.7(1.0)	218.9(0.9)>	240.2(1.3)>	258.5(1.1)>	269.0(2.0)>
	1990	211.6(1.1)	31.8(0.7)	157.7(2.0)	169.6(2.0)	191.5(1.3)	212.5(0.8)	233.1(1.5)	251.8(2.0)	262.1(1.4)
Private/Catholic	**1992**	226.4(1.4)	28.4(0.8)	178.9(3.1)	189.5(2.6)	207.5(1.6)	227.7(1.4)	245.9(1.6)	261.4(1.3)	271.2(1.2)
	1990	224.4(2.6)	29.5(1.4)	173.5(10.1)	186.4(3.3)	205.4(3.6)	225.5(2.3)	244.5(3.1)	262.8(4.2)	271.7(4.5)
Private Only	**1992**	226.1(3.7)	29.6(1.6)	177.1(8.5)	187.0(9.8)	205.9(4.7)	227.9(3.3)	245.5(4.8)	263.5(4.9)	274.0(4.1)
	1990	232.5(3.6)	27.7(1.8)	186.0(1.7)	195.0(2.9)	213.2(4.4)	233.6(2.8)	252.0(2.5)	269.0(6.1)	277.3(5.9)
Catholic Only	**1992**	226.6(1.2)>	27.7(0.8)	180.1(3.9)	190.8(2.5)	208.2(1.4)	227.6(1.3)	246.0(1.4)>	260.6(2.0)	269.6(2.1)
	1990	219.3(3.0)	29.4(1.6)	167.2(8.5)	181.7(4.0)	200.8(3.2)	221.1(3.1)	238.7(1.7)	256.2(4.0)	265.6(3.1)

Note: > Indicates a significant increase (or decrease "<") between 1990 and 1992.

NAEP 1990 and 1992 Math Assessments — Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 8

		Mean	**Std. Dev.**	**5th**	**10th**	**25th**	**50th**	**75th**	**90th**	**95th**
Total	**1992**	267.7(0.9)>	36.6(0.5)	206.2(1.9)	219.5(0.9)	242.3(1.3)	268.5(1.4)	293.8(0.9)>	314.6(1.0)>	326.3(1.8)>
	1990	262.6(1.3)	36.0(0.8)	201.1(2.3)	215.0(2.2)	238.7(1.8)	263.6(1.2)	288.0(1.1)	307.1(1.9)	319.2(1.6)
Sex										
Male	**1992**	267.4(1.1)>	37.2(0.6)	205.3(2.8)	218.2(2.1)	241.6(1.4)	268.1(1.3)	294.3(1.2)	314.7(1.5)	326.8(2.1)
	1990	263.2(1.6)	37.2(1.0)	200.1(2.5)	213.8(2.6)	238.7(2.3)	263.6(1.4)	289.6(1.7)	310.1(1.8)	322.0(2.3)
Female	**1992**	268.0(1.0)>	36.0(0.5)	207.5(2.9)	220.9(1.3)	242.9(2.5)	268.9(1.3)	293.3(1.5)>	314.5(1.0)>	325.9(2.2)>
	1990	261.9(1.3)	34.7(0.8)	201.9(3.8)	216.4(1.4)	238.6(3.3)	263.6(1.6)	286.3(1.1)	304.5(1.4)	316.0(2.7)
Race Ethnicity										
White	**1992**	277.2(1.0)>	32.8(0.4)	222.1(1.6)	234.0(1.3)	254.7(1.4)	278.2(1.3)>	300.1(1.1)>	319.0(1.1)>	329.6(1.4)
	1990	270.3(1.4)	33.1(0.8)	214.3(2.9)	227.2(2.8)	248.9(2.2)	271.6(1.3)	292.8(1.4)	311.2(2.4)	323.6(3.1)
Black	**1992**	236.8(1.4)	30.8(1.0)	186.9(2.9)	197.7(2.5)	215.8(1.4)	236.6(1.5)	257.8(1.5)	275.9(2.2)	287.1(3.5)
	1990	237.9(2.7)	33.6(1.3)	184.9(5.1)	195.0(4.4)	214.3(3.8)	237.0(1.3)	259.1(2.7)	284.1(3.3)	297.9(3.1)
Hispanic	**1992**	246.3(1.2)	34.8(0.8)	189.6(4.2)	202.3(2.8)	222.1(1.2)	246.4(1.7)	270.0(1.8)	291.0(2.0)	303.2(2.1)
	1990	243.7(2.8)	33.9(1.1)	186.8(3.0)	200.0(5.5)	219.5(2.9)	245.0(5.0)	268.4(2.2)	284.8(1.7)	297.3(3.8)
Asian American/ Pacific Islander	**1992**	288.0(5.5)	37.3(1.6)	226.1(3.2)	240.3(8.6)	262.3(5.1)	287.8(11.6)	314.3(5.4)	339.3(9.5)	347.0(3.4)
	1990	279.0(4.8)	37.9(3.6)	208.7(8.7)	226.2(4.9)	257.5(15.6)	283.3(4.9)	305.4(6.0)	324.3(6.3)	334.4(8.9)
American Indian/ Alaskan Native	**1992**	254.3(2.8)	27.8(1.4)	207.4(7.2)	219.9(3.6)	235.0(2.5)	253.7(4.0)	274.1(6.2)	291.8(3.7)	302.6(6.9)
	1990	245.5(9.4)	34.1(2.8)	190.5(15.3)	202.6(14.1)	218.5(17.4)	248.1(8.3)	269.5(14.1)	291.2(15.5)	299.2(20.4)
Parents' Education Level										
Less Than HS	**1992**	248.5(1.7)>	32.0(1.2)	198.8(2.4)	207.9(2.1)	226.3(1.4)	246.0(3.8)	270.8(2.7)	290.7(3.1)	301.9(5.2)
	1990	242.3(2.0)	30.0(1.8)	192.8(10.0)	204.6(4.3)	223.3(1.6)	242.3(2.5)	261.5(5.0)	278.4(3.6)	292.2(8.5)
Graduated HS	**1992**	256.6(1.2)	33.3(0.8)	201.2(3.5)	212.8(1.7)	233.7(1.9)	257.3(1.6)	280.5(1.9)	298.5(1.3)	309.9(1.9)
	1990	255.0(1.6)	32.6(1.0)	200.2(3.2)	212.3(2.8)	233.9(2.0)	255.8(1.7)	277.6(1.9)	296.9(1.5)	306.5(1.9)
Education After HS	**1992**	270.4(1.1)	33.6(1.0)	215.2(3.5)	227.0(2.6)	248.6(1.6)	270.3(2.1)	293.3(0.9)	313.9(1.6)>	325.3(2.2)
	1990	267.5(1.6)	33.4(1.0)	209.2(6.2)	222.7(5.7)	245.5(1.3)	269.4(2.1)	289.6(2.1)	306.3(2.3)	319.8(4.6)
Graduated College	**1992**	280.0(1.2)>	36.1(0.7)	216.2(1.7)	231.2(2.4)	256.4(1.0)	283.0(1.6)>	305.8(1.5)>	324.0(1.1)>	334.3(1.5)
	1990	274.4(1.5)	34.7(0.8)	212.7(3.2)	227.4(2.3)	252.2(2.2)	277.0(1.4)	298.2(1.3)	316.7(2.1)	328.3(2.0)
Unknown	**1992**	251.0(1.6)>	34.1(1.0)	193.4(2.9)	206.4(3.8)	227.4(4.0)	250.2(2.8)	274.1(4.1)	296.1(2.2)	037.7(2.2)
	1990	240.9(3.2)	35.4(1.9)	182.8(5.8)	192.2(5.9)	216.1(4.9)	241.8(4.3)	265.9(2.4)	287.2(9.2)	298.3(7.5)
School Ranking										
Top Third	**1992**	289.0(1.3)>	30.5(0.7)	236.5(3.7)	248.8(2.5)	269.6(1.4)>	290.3(1.2)>	309.6(1.6)	327.7(2.2)	337.2(2.6)
	1990	280.5(1.2)	32.5(1.3)	224.3(4.2)	238.4(3.3)	259.9(1.6)	283.2(1.7)	301.6(3.2)	320.0(2.2)	331.8(2.3)
Middle Third	**1992**	270.4(0.7)>	32.9(0.7)	215.0(1.6)	227.7(1.4)	247.9(1.8)	270.8(1.1)>	293.3(1.0)>	313.2(1.2)>	323.6(1.9)
	1990	265.6(0.8)	31.0(1.0)	214.5(2.7)	225.6(3.6)	245.8(1.4)	265.7(1.4)	286.6(1.2)	304.7(2.0)	315.9(2.6)
Lower Third	**1992**	245.2(0.9)	33.1(0.7)	191.6(2.1)	203.7(2.1)	222.9(1.3)	244.4(1.4)	266.9(1.2)	288.6(1.4)	301.0(2.5)
	1990	243.6(1.8)	34.9(1.1)	188.0(5.9)	198.5(2.6)	219.3(2.1)	243.3(1.7)	267.7(1.5)	289.3(1.8)	301.3(1.6)

Note: > Indicates a significant increase (or decrease "<") between 1990 and 1992.

NAEP 1990 and 1992 Math Assessments — Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 8 (Cont'd)

		Mean	Std. Dev.	5th	10th	25th	50th	75th	90th	95th
Type Of Community										
Extreme Rural	**1992**	267.3(4.6)	32.9(1.2)	211.0(7.0)	222.9(3.2)	245.6(6.7)	268.5(5.3)	290.5(4.3)	309.2(5.5)	318.8(5.5)
	1990	256.6(4.4)	32.9(2.6)	201.1(16.6)	214.7(5.3)	236.5(7.0)	256.8(4.4)	280.4(5.5)	298.8(3.7)	308.0(7.0)
Disadvantaged Urban	**1992**	238.4(2.6)<	34.1(1.3)	183.9(6.6)	195.4(2.8)	215.5(2.4)	237.5(1.8)	259.2(4.1)	283.8(5.7)	298.7(4.9)
	1990	249.3(3.8)	35.3(2.0)	193.7(4.5)	204.5(5.6)	225.2(4.3)	248.7(5.4)	272.6(6.0)	297.2(8.4)	310.3(5.0)
Advantaged Urban	**1992**	288.4(3.6)	34.9(1.8)	224.8(9.9)	240.5(5.1)	265.7(4.8)	291.8(2.1)	313.5(4.1)	330.9(2.8)	340.5(2.8)
	1990	280.1(3.2)	32.7(1.4)	223.5(4.4)	239.4(3.7)	259.5(3.3)	281.4(3.9)	301.5(3.9)	320.5(7.2)	330.3(3.8)
Other	**1992**	268.3(1.1)>	35.3(0.6)	209.0(2.5)	222.1(1.6)	244.0(1.6)	269.0(1.3)	293.2(1.0)>	313.4(1.2)>	324.8(1.4)
	1990	262.4(1.7)	35.9(1.0)	200.8(3.8)	214.5(3.1)	238.7(3.1)	263.9(1.7)	287.9(1.6)	306.3(1.6)	318.3(2.4)
Ability Of Students In Class										
High Ability	**1992**	299.3(1.8)>	30.8(1.1)	245.6(3.9)	260.7(2.9)>	281.5(2.9)	302.0(2.3)>	320.4(1.8)>	334.9(1.9)>	343.5(1.7)
	1990	288.3(2.3)	31.9(1.8)	232.3(3.3)	246.7(3.8)	269.8(4.1)	290.2(3.3)	309.9(2.3)	326.7(2.0)	336.4(4.4)
Average Ability	**1992**	265.3(1.3)>	31.2(0.7)	211.9(1.8)	223.8(2.3)	244.7(2.1)	266.6(1.9)	287.9(1.6)	304.4(1.5)	313.8(1.5)
	1990	260.0(2.0)	32.3(1.4)	203.8(7.7)	217.2(3.7)	240.6(2.6)	262.0(1.2)	282.0(2.8)	297.8(2.4)	308.4(5.9)
Low Ability	**1992**	244.3(1.9)	32.2(1.0)	192.0(3.7)	204.2(5.2)	222.6(1.9)	243.2(2.6)	266.6(2.9)	286.8(4.9)	296.0(2.1)
	1990	243.6(3.5)	34.1(1.9)	187.4(3.0)	199.7(3.3)	221.7(3.2)	244.3(2.8)	265.1(5.8)	287.4(3.7)	299.7(6.4)
Mixed Ability	**1992**	261.1(1.6)	31.3(0.9)	207.0(3.6)	220.4(2.1)	240.6(1.2)	261.6(2.0)	283.2(2.4)	300.8(1.7)	310.3(2.0)>
	1990	256.5(3.1)	30.6(1.1)	204.1(6.5)	215.5(6.0)	235.2(4.0)	257.0(2.7)	278.7(4.4)	295.8(2.1)	303.7(0.9)
Region										
Northeast	**1992**	269.0(2.7)	37.9(1.0)	206.7(4.6)	219.9(3.2)	242.3(2.5)	268.3(3.9)	296.3(3.8)	319.1(4.0)	332.0(2.2)
	1990	269.8(2.8)	33.7(1.2)	211.7(5.0)	226.8(6.0)	247.6(2.8)	270.7(4.1)	294.0(3.9)	311.0(2.9)	322.7(4.7)
Southeast	**1992**	260.4(1.4)	35.7(0.8)	202.0(2.7)	214.2(2.5)	234.8(1.8)	261.1(1.4)	286.4(2.0)	307.2(2.7)	318.8(1.3)
	1990	255.4(2.5)	36.9(1.9)	193.5(13.1)	207.7(6.6)	229.5(4.9)	255.9(2.7)	282.1(2.7)	301.6(2.7)	314.2(4.5)
Central	**1992**	274.0(1.9)>	34.3(0.9)	214.1(2.7)	228.0(1.9)	251.2(2.6)	276.4(2.1)>	298.3(2.1)	316.8(1.7)	326.9(1.6)
	1990	266.2(2.3)	33.7(1.5)	207.5(6.3)	220.7(6.1)	243.8(4.2)	268.0(2.1)	290.0(3.3)	306.9(3.4)	318.6(4.5)
West	**1992**	267.5(2.0)>	37.2(0.9)	205.5(2.2)	219.2(3.5)	242.4(2.3)	268.3(2.8)	293.6(1.8)	315.0(3.0)	327.3(4.3)
	1990	260.9(2.6)	37.2(1.1)	198.6(4.2)	211.9(2.5)	236.0(3.2)	262.4(2.0)	285.9(2.6)	308.7(5.0)	321.3(4.7)
Type Of School										
Public	**1992**	266.1(1.0)>	36.7(0.5)	205.1(2.0)	218.0(1.6)	240.7(1.3)	266.8(1.2)	292.2(1.0)	313.4(1.4)	325.2(1.5)
	1990	261.7(1.4)	36.5(0.8)	200.2(1.8)	213.7(1.8)	237.2(1.7)	262.7(1.4)	287.6(1.7)	307.1(1.9)	319.3(1.8)
Private/Catholic	**1992**	279.9(2.2)>	33.8(1.1)	221.8(3.8)	235.3(4.2)	257.1(2.1)	282.3(2.2)>	303.6(2.1)>	321.7(2.2)>	332.0(2.6)
	1990	271.5(2.5)	29.1(1.4)	219.7(4.8)	234.1(6.3)	252.2(2.1)	272.6(2.1)	291.5(2.2)	307.1(2.7)	318.1(4.9)
Private Only	**1992**	283.7(4.1)>	35.7(1.9)	222.7(7.2)	237.7(4.7)	259.0(6.5)	287.5(4.3)	309.7(5.8)	327.2(4.7)	337.5(3.0)
	1990	272.5(3.1)	29.9(2.2)	218.3(5.9)	235.9(10.6)	252.0(2.2)	275.3(3.7)	292.8(3.4)	308.1(8.0)	318.9(7.3)
Catholic Only	**1992**	277.2(2.1)	32.0(1.3)	221.5(3.6)	234.1(4.2)	255.8(2.4)	279.0(2.7)	300.0(2.2)	317.1(1.8)>	326.6(2.0)
	1990	270.9(3.5)	28.6(1.8)	219.9(7.9)	233.4(8.2)	252.3(4.2)	271.5(3.8)	290.9(3.7)	306.1(2.6)	316.9(13.5)

Note: **> Indicates a significant increase (or decrease "<") between 1990 and 1992.**

NAEP 1990 and 1992 Math Assessments — Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 12

		Mean	Std. Dev.	5th	10th	25th	50th	75th	90th	95th
Total	**1992**	298.7(0.9)>	34.4(0.4)	240.3(1.9)>	252.9(1.2)>	275.0(1.4)	299.9(1.2)	323.2(1.3)	342.6(1.0)	353.6(1.3)
	1990	294.2(1.1)	35.7(0.6)	233.0(1.6)	246.7(1.0)	269.9(1.3)	295.5(1.5)	319.2(1.4)	339.3(1.6)	350.5(3.1)
Sex										
Male	**1992**	300.6(1.1)>	35.2(0.6)	240.7(2.5)	253.2(1.5)	276.5(2.0)	301.5(1.7)	326.0(1.5)	345.5(1.1)	356.7(2.0)
	1990	297.1(1.4)	36.4(0.8)	235.9(5.2)	248.0(2.8)	271.8(2.6)	297.6(1.3)	322.3(2.6)	344.9(3.6)	356.4(6.5)
Female	**1992**	297.0(1.0)>	33.5(0.5)	239.9(2.9)	252.4(1.3)	273.7(1.0)>	298.3(1.0)	320.4(1.5)	339.7(1.3)	350.6(1.1)>
	1990	291.5(1.3)	34.9(0.7)	230.7(2.4)	244.8(2.6)	268.5(1.5)	293.8(2.1)	316.8(1.5)	334.6(1.9)	344.0(1.6)
Race/Ethnicity										
White	**1992**	305.0(0.9)>	32.3(0.5)	249.9(1.7)	262.0(0.7)	283.4(1.5)	306.7(1.3)>	328.0(1.4)	345.6(1.1)	356.0(1.0)
	1990	300.5(1.2)	33.3(0.7)	243.1(4.6)	256.3(2.1)	278.4(1.4)	301.5(1.2)	323.9(1.5)	342.8(1.7)	353.7(1.7)
Black	**1992**	274.8(1.7)>	30.4(0.8)	226.6(1.8)	235.0(2.7)	252.6(2.0)	273.7(2.4)	296.5(2.6)	314.9(1.8)	326.1(2.2)
	1990	267.9(1.9)	32.3(1.4)	215.3(4.7)	226.2(3.1)	245.3(3.1)	267.4(2.0)	290.3(2.6)	311.0(3.6)	321.5(4.9)
Hispanic	**1992**	282.9(1.8)>	32.9(1.3)	229.1(18.1)	240.5(4.0)	260.6(3.3)	282.8(1.8)	304.5(1.7)	324.8(3.0)	339.6(1.6)
	1990	275.9(2.8)	33.9(1.8)	221.2(20.5)	232.8(5.7)	252.1(3.7)	276.1(2.3)	298.3(3.5)	320.4(5.7)	332.1(5.0)
Asian American/ Pacific Islander	**1992**	315.3(3.5)	32.0(1.6)	259.2(5.6)	274.3(6.0)	293.8(3.6)	315.2(3.8)	340.1(7.6)	357.6(3.5)	366.0(5.7)
	1990	311.1(5.2)	34.8(2.2)	247.4(6.3)	262.7(12.0)	288.3(6.1)	313.7(4.8)	333.5(7.1)	352.6(8.8)	365.3(4.0)
American Indian/ Alaskan Native	**1992**	281.1(9.0)	34.1(4.6)	223.2(27.8)	232.5(19.1)	255.5(29.8)	281.0(14.3)	311.3(11.6)	322.3(2.7)	333.1(12.9)
	1990	287.6(10.2)	41.9(5.7)	200.0(17.1)	205.4(13.8)	276.1(16.5)	300.7(18.3)	317.4(12.9)	329.9(6.5)	331.4(5.7)
Parents' Education Level										
Less Than HS	**1992**	277.5(1.7)>	30.4(1.1)	226.8(3.2)	238.2(2.1)	258.2(2.7)	278.0(2.1)	297.7(2.3)	316.8(2.5)	329.1(3.6)
	1990	272.0(2.1)	30.5(2.0)	218.9(4.3)	229.8(4.5)	250.9(3.3)	275.1(2.3)	289.8(3.2)	309.4(4.6)	324.6(4.9)
Graduated HS	**1992**	287.0(1.4)	31.5(0.7)	234.6(2.6)	245.8(1.6)	265.2(2.3)	287.6(1.6)	310.0(2.8)	328.0(1.4)	337.7(2.1)
	1990	282.8(2.0)	33.8(0.9)	226.8(3.9)	238.7(5.9)	260.1(2.4)	284.0(2.8)	305.5(1.6)	325.9(2.4)	337.5(5.8)
Education After HS	**1992**	297.8(1.0)	32.1(0.6)	242.7(2.9)	255.5(1.2)	275.7(1.7)	298.8(0.8)	320.2(1.7)	339.3(1.1)	349.7(1.5)
	1990	296.8(1.2)	32.2(1.0)	241.8(6.9)	253.1(3.2)	274.1(2.1)	298.3(1.3)	319.2(1.5)	338.4(3.1)	347.8(1.2)
Graduated College	**1992**	310.1(1.2)>	33.2(0.7)	251.2(3.2)	264.1(1.6)>	288.9(2.2)	312.2(1.8)	333.9(1.2)>	351.6(1.4)	361.3(1.8)
	1990	305.5(1.6)	35.0(1.0)	243.2(7.2)	258.1(0.9)	283.4(1.8)	308.3(2.1)	329.5(1.1)	349.0(2.3)	359.8(2.5)
Unknown	**1992**	275.6(3.0)	32.0(3.1)	225.8(6.3)	235.6(3.6)	251.3(6.6)	274.7(4.1)	299.6(13.4)	317.4(3.4)	327.1(2.3)
	1990	268.5(4.9)	36.8(3.9)	202.4(23.4)	218.0(11.4)	245.3(10.2)	266.9(13.4)	293.5(4.6)	321.4(10.6)	330.0(2.7)
School Ranking										
Top Third	**1992**	316.0(1.1)>	30.9(0.6)	261.8(1.8)	273.8(2.2)	295.9(1.9)	318.3(1.2)>	337.8(1.3)	354.0(1.5)	363.1(1.3)
	1990	309.6(1.2)	33.0(1.2)	251.0(5.9)	265.5(2.3)	288.5(2.8)	310.2(1.3)	332.3(1.9)	351.5(3.0)	362.4(3.0)
Middle Third	**1992**	297.0(0.6)>	30.9(0.5)	243.9(2.0)	255.8(1.4)>	276.6(1.4)	297.8(0.6)	318.1(0.8)	336.5(0.9)	346.6(1.5)
	1990	294.2(0.8)	33.4(0.8)	235.4(3.1)	248.1(1.8)	272.2(2.4)	295.9(1.7)	318.4(1.4)	335.4(1.4)	345.9(3.2)
Lower Third	**1992**	279.0(1.0)>	31.9(0.8)	228.1(1.9)	237.8(2.1)	256.4(1.2)	278.4(1.4)	300.9(1.4)	320.1(1.8)	332.6(2.2)
	1990	274.0(1.5)	32.4(0.8)	219.5(3.9)	231.5(2.0)	252.7(1.8)	273.8(1.9)	296.1(2.4)	315.2(3.9)	326.4(3.4)

Note: > Indicates a significant increase (or decrease "<") between 1990 and 1992.

NAEP 1990 and 1992 Math Assessments — Mean Proficiencies, Standard Deviations, and Percentiles for the Nation and Demographic Subpopulations: Grade 12 (Cont'd)

		Mean	Std. Dev.	5th	10th	25th	50th	75th	90th	95th
Type Of Community										
Extreme Rural	**1992**	292.6(1.9)	32.0(0.7)	238.8(4.2)	250.5(2.5)	270.2(2.5)	292.7(1.9)	315.4(2.3)	334.8(2.2)	344.9(2.5)
	1990	293.3(3.3)	33.9(1.5)	234.1(6.8)	246.1(5.9)	271.6(3.8)	294.9(6.2)	317.6(3.0)	336.4(3.2)	347.4(7.5)
Disadvantaged Urban	**1992**	279.3(2.4)	33.5(1.2)	226.1(2.9)	236.0(2.4)	255.3(2.8)	278.3(2.0)	302.8(3.7)	323.9(4.0)	335.4(3.6)
	1990	276.3(6.0)	34.1(1.6)	219.4(9.8)	233.7(4.4)	254.6(6.6)	274.8(7.6)	298.7(8.4)	321.8(13.6)	336.6(9.7)
Advantaged Urban	**1992**	316.3(2.6)	33.4(1.3)	254.5(4.5)	269.6(5.3)	295.2(5.0)	318.8(2.6)	340.0(1.8)	356.5(2.2)	366.4(4.5)
	1990	305.9(6.2)	36.9(2.1)	239.7(7.3)	255.4(5.9)	281.8(10.6)	308.4(8.9)	332.3(3.7)	351.8(5.7)	363.4(4.8)
Other	**1992**	299.6(0.9)>	33.3(0.5)	242.6(2.1)	255.3(2.3)	277.1(1.0)	300.8(1.0)	323.0(1.3)	341.9(1.2)	352.9(1.7)
	1990	295.3(1.3)	35.1(0.7)	234.4(3.0)	247.9(1.5)	272.1(2.8)	296.8(1.9)	319.8(1.1)	339.3(1.5)	350.3(2.9)
Type Of High School Program										
General	**1992**	285.4(1.1)>	30.9(0.7)	234.1(2.5)	245.4(1.4)>	264.1(1.5)	285.7(2.1)>	306.8(1.6)>	325.1(1.6)	336.6(2.8)
	1990	276.6(1.3)	31.0(1.0)	227.2(7.0)	235.8(2.0)	255.4(3.1)	277.1(1.4)	297.8(1.2)	316.1(3.0)	328.3(3.3)
College Preparatory	**1992**	315.2(0.8)>	29.6(0.5)	263.7(1.2)	276.5(1.6)>	296.1(1.0)>	316.5(1.1)>	336.0(0.8)>	352.1(1.7)	361.4(1.1)
	1990	307.7(1.2)	32.1(0.7)	251.5(5.1)	266.0(3.2)	287.7(1.7)	309.6(1.3)	329.5(1.2)	347.6(1.6)	357.6(3.7)
Vocational/Technical	**1992**	277.6(2.5)>	28.3(1.6)	228.3(4.2)	239.5(4.5)	258.4(5.2)	278.5(2.5)	296.0(3.1)	314.0(3.1)	323.5(4.8)
	1990	268.7(2.3)	29.8(1.8)	219.2(2.8)	227.1(3.7)	248.3(4.1)	271.1(2.0)	290.0(10.2)	303.8(3.0)	315.7(6.1)
Region										
Northeast	**1992**	301.9(1.5)	35.3(0.9)	241.6(3.4)	254.7(1.8)	277.1(2.1)	304.0(2.3)	327.7(1.7)	346.2(1.8)	357.8(2.9)
	1990	299.8(2.3)	36.3(1.0)	236.2(6.0)	250.5(3.1)	276.0(3.4)	301.2(2.4)	324.9(3.3)	347.0(2.5)	357.3(4.2)
Southeast	**1992**	291.1(1.4)>	34.3(0.7)	234.1(3.4)	247.0(2.4)	266.5(2.4)	291.5(1.7)	315.7(2.0)	336.1(1.6)>	346.8(1.6)>
	1990	283.9(2.2)	33.8(1.1)	226.9(3.6)	238.6(5.4)	260.0(2.9)	285.1(4.6)	306.9(2.8)	326.4(2.6)	337.7(1.8)
Central	**1992**	303.2(1.8)	32.7(0.7)	245.8(2.4)	259.9(2.7)	281.9(2.8)	304.7(1.7)	326.3(2.7)	345.0(2.0)	354.9(2.2)
	1990	297.2(2.6)	34.6(1.5)	237.2(5.0)	251.2(4.7)	274.2(3.2)	298.8(3.1)	322.0(4.6)	339.4(3.5)	348.8(3.3)
West	**1992**	298.3(1.7)	34.0(1.0)	240.9(2.7)	253.3(2.7)	274.7(2.0)	299.3(2.1)	321.9(2.3)	341.9(2.0)	353.1(2.6)
	1990	294.0(2.6)	36.1(1.3)	233.5(3.1)	246.2(3.0)	268.9(4.5)	295.3(2.8)	319.2(3.1)	340.0(4.2)	351.8(7.1)
Type Of School										
Public	**1992**	296.6(1.0)	34.3(0.5)	238.8(1.6)>	251.1(1.0)	272.5(1.1)	297.4(0.9)	320.8(1.3)	340.7(1.6)	351.6(1.4)
	1990	293.6(1.2)	36.0(0.7)	232.1(1.1)	245.6(1.9)	269.1(1.8)	295.0(1.2)	319.0(1.9)	339.3(1.7)	350.4(3.5)
Private/Catholic	**1992**	313.4(2.3)>	31.3(1.1)	257.9(3.7)	272.2(4.3)>	293.2(4.2)>	315.0(3.3)	336.0(1.6)>	353.1(2.3)	362.2(1.9)
	1990	299.5(3.6)	31.9(1.4)	247.5(2.9)	257.1(2.1)	277.0(4.2)	301.0(4.2)	321.6(3.6)	340.4(5.2)	350.8(4.8)
Private Only	**1992**	319.2(4.3)>	32.8(1.6)	259.9(8.1)	274.9(6.3)	298.1(4.0)>	322.3(6.2)>	343.2(3.7)>	359.1(4.2)	367.5(1.6)
	1990	297.8(5.1)	30.5(2.7)	248.7(8.3)	257.2(2.4)	274.2(7.1)	298.9(5.0)	318.6(7.6)	334.8(10.2)	348.5(11.1)
Catholic Only	**1992**	310.4(2.5)	30.0(1.0)	257.5(2.4)	270.6(5.6)	291.0(1.5)	311.8(2.1)	331.4(2.6)	348.1(1.6)	357.1(1.4)
	1990	300.6(4.6)	32.8(1.7)	246.0(4.0)	256.4(4.3)	279.1(6.8)	302.3(5.3)	323.1(4.2)	342.5(3.7)	352.5(3.8)

Note: > Indicates a significant increase (or decrease "<") between 1990 and 1992.

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